

The SHIPPING WORLD



VOL. 145 No. 3565

6 DECEMBER 1961

Price 2s.



X8

= 8 NEW MODERN SHIPS
ADDED TO THE
BLACK STAR FLEET

These eight fine new ships will provide a first class service from the United Kingdom and the Continent to the ports of West Africa, also between Canada, the United States and West Africa. The Black Star Line thus continues its policy of offering fast, efficient freight services on regular schedules.

BRIEF DETAILS OF VESSELS

Deadweight all cold 9,842 tons (open shelterdeck vessel 7,263 tons)
Length (overall) 460 feet Cubic Bales (total) 455,000 cubic feet
Refrigerator space 25,000 cubic feet
consisting of: 9,000 cu.ft. No. 3 T/D at a temp. of -20° to +12° celsius
16,000 cu.ft. No. 3 L/H 54° to 19° fahr.
Hatches: 5 BULK OIL CARGO TANKS 500 TONS (BETWEEN 4 TANKS)
Derricks: 4 at 5 tons 8 at 10 tons 4 at 15 tons 1 at 40 tons (heavy lift)
Passenger Accommodation: 4 single berths 4 double berths
FOUR VESSELS SPECIALLY EQUIPPED EACH WITH 80-TON HEAVY LIFTING DERRICK. NO
REFRIGERATOR SPACE. DEEP TANK FOR VEGETABLE OIL, FITTED WITH HEATING COILS.

Head Office: 28th February Road, P.B.O. 2760, ACCRA

Managing Agents: Zim Israel Navigation Co. Ltd.,
Agents: 3/4 Houndsditch, London, E.C.3.

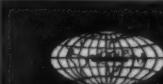
London Office: 3/4 Houndsditch, London, E.C.3

General Agents in Star Shipping Agencies Ltd.,
United Kingdom 3/4 Houndsditch, London, E.C.3.

Liverpool Bahr Behrend & Co. Ltd.,
Agents India Buildings, Liverpool 2.

The Ships

M.V. PRA RIVER
M.V. OFFIN RIVER
M.V. OTCHI RIVER
M.V. BIRIM RIVER
M.V. NASIA RIVER
NEWBUILDING 314
NEWBUILDING 315
NEWBUILDING 316



BLACK STAR LINE LTD

**The most comprehensive
REPAIRS SERVICE
in Southern England**

at SOUTHAMPTON DOCKS

Wet berths and dry docks capable of accommodating the world's largest liners.

Hull, machinery and electrical repairs.

Damage repairs and conversions.

Cleaning, repair and restoration of carpets, curtains, soft furnishings and upholstered furniture. Complete interior decoration schemes undertaken.

Mobile repair squads available, day and night, for urgent repairs in the Southampton area.

at NORTHAM YARD

Slips to take vessels of 1,000 tons, 725 tons and 150 tons.

Conversions and repairs to coasting vessels, tugs, small tankers, passenger steamers and yachts.

Overhauls and repairs to engines of small craft, including ships' life-boats.

at WOOLSTON WORKS & SHIPYARD

Full use is made of these facilities including our engineering shops and foundries, galvanising plant, etc.

Electrical repairs, propeller repairs, turbine repairs a speciality.

**THORNYCROFT
REPAIRS DEPARTMENT**

JOHN I. THORNYCROFT & CO. LIMITED, REPAIRS DEPARTMENT, SOUTHAMPTON DOCKS. 'Phone: 20331



'These stabilisers make all the difference!'

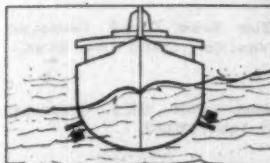
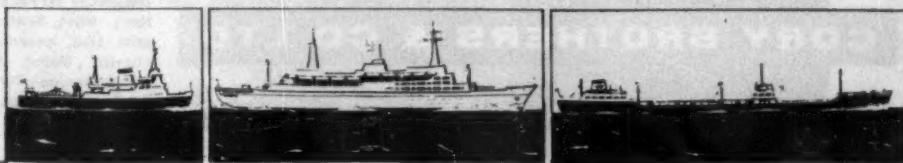
There's much less risk of cargo shifting in rough weather, or valuable freight being damaged, when a ship is fitted with Denny-Brown Stabilisers. And because they minimise rolling, these effective stabilisers are especially important for vehicle-ferries and livestock transporters. Cargo of every kind travels more securely in a stabilised ship—and Denny-Brown Stabilisers make for safety and efficiency at sea.

DENNY-BROWN STABILISERS

OVER TWENTY YEARS OF STEADY PROGRESS

For cargo care... passenger preference...

sustained sea speed



Denny-Brown Stabilisers reduce a roll of 10-15° each way to an average of 2°. They are individually designed for all types of ship from 80 to over 80,000 tons and can be fitted to existing vessels.

DESIGNERS AND MANUFACTURERS BROWN BROTHERS & COMPANY LIMITED, EDINBURGH
NAVAL ARCHITECTS WM. DENNY & BROTHERS LIMITED, DUMBARTON
CONTROL GEAR MANUFACTURED BY MUIRHEAD & COMPANY LIMITED, BECKENHAM, KENT
 and in association with Messrs. AEG/Deutsche Werft in Germany, Messrs. Nuova San Giorgio in Italy, Messrs. McKiernan-Terry Corporation in U.S.A.

Making their way... by the way they are made



... into faster, bigger and better ships!

★ PROPULSION AND AUXILIARY ENGINES FROM 3-1,320 H.P.

- "LETITIA" (top left) 3—Lister Blackstone 125 k.w. Marine Auxiliary Generator Sets.
- "NORTHERN STAR" (middle) Lister Blackstone 475 B.H.P. engine at 720 RPM directly coupled to a 300 kw alternator.
- "MONTROSE" (top right) 3—Lister Blackstone 275 k.w. Marine Auxiliary Generator Sets.



LISTER BLACKSTONE

LISTER BLACKSTONE MARINE LIMITED

Dursley, Gloucestershire. Phone 2981 Telegrams & Cables: Power Dursley. Telex 4361

World-Wide Bunkering & Ships Agency Service

Shipbrokers, Chartering Agents,
Sale and Purchase Brokers.

PRINCIPAL OVERSEAS DEPOTS & OFFICES
Aden, Alexandria, Algeciras, Bahia*, Banias, Beirut, Buenos Aires, Ceuta, Genoa, Las Palmas, Lattakia, Le Havre, Lisbon, Madrid, Malta, Montreal, Naples, Oporto, Paris, Port Said, Rio de Janeiro*, Rouen, St. Vincent (C.V.I.)*, Sidon, Suez, Teneriffe, Tripoli (Lebanon), Tripoli (Libya), Tunis, and Agents at all principal ports. *Lloyds Agents.

BRANCH OFFICES IN U.K.
Barry, Blyth, Bristol, Glasgow, Grangemouth, Hartlepool, Hull, Ipswich, Leith, Liverpool, London, Manchester, Methil, Middlesbrough, Milford Haven*, Newcastle-upon-Tyne, Newport (Mon.), Port Talbot, Seaham, Sharpness, Sunderland, Swansea.
*Lloyds Agents.

Head Office:
Corys' Buildings, Bute Street, Cardiff. Telephone: Cardiff 31141. Telegrams: Cory, Cardiff. Telex: 49-300.

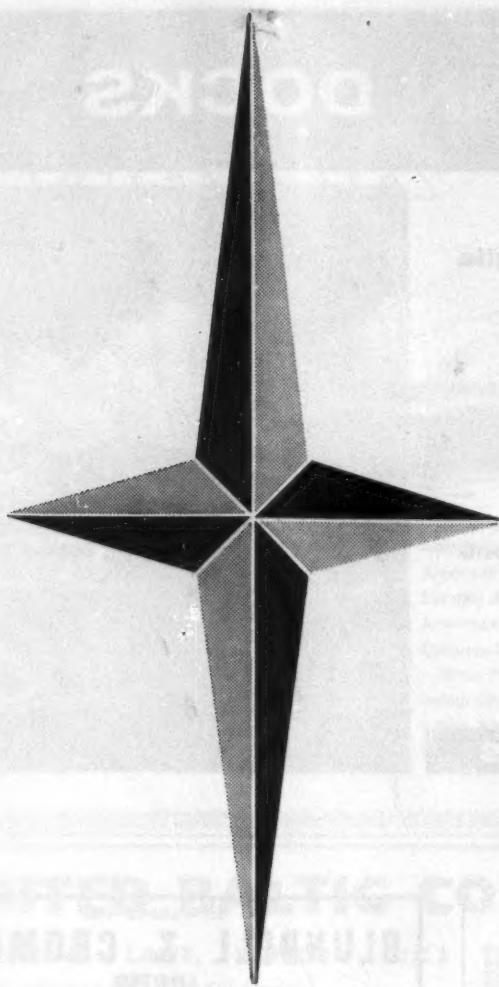
London Office:
8, Great Tower Street, London E.C.3. Telephone: MANSion House 3477. Telex: 22112/3.

Telegraphic Addresses:
OILBUNKERS—"Coryoil, London"
COALBUNKERS—"Corystem, London"
SHIPS AGENCY—"Corygen, London"
(River Thames)—"Corythames, London"
CHARTERING—"Corychart, London"
SALE & PURCHASE—"Corysale, London"

CORY BROTHERS & CO LTD



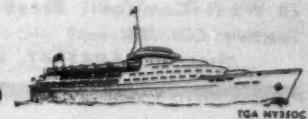
CORY BROTHERS & CO LTD
A POWELL DUFFRYN COMPANY



NORTHERN STAR

Vickers-built
at the Naval Yard, Walker for
Shaw Savill
launched 27th June 1961

VICKERS-ARMSTRONGS (SHIPBUILDERS) LIMITED



KING'S LYNN DOCKS

a distributing centre for
the Midlands and East Anglia



modern facilities for cargo handling
regular cargo liner services with Continental ports
road and rail access to all quays
extensive transit sheds and warehouses
stevedoring and shipping services

enquiries to: Docks Manager, King's Lynn Docks

BRITISH TRANSPORT DOCKS

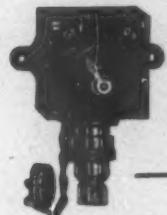


MCGEOCH

LIGHTING FITTINGS
for
Engine Room, Deck
and Cabin



SWITCH and FUSE GEAR
and CONTROL CUBICLES
WATERTIGHT SWITCHES
SOCKETS and PLUGS



SHIPS' HARDWARE*
in all metals and finishes

Registered

Est'd. 1832

Trade Mark

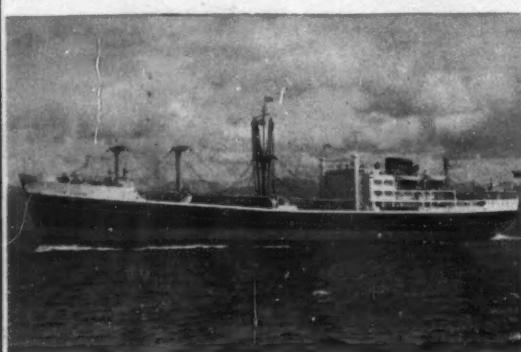
WILLIAM MCGEOCH & CO. LTD.
28 West Campbell Street, GLASGOW, W.C.2.
Telephone: CEN. 7041. Telegrams: McGeoch Glasgow
Works: Bordesley, BIRMINGHAM 10

ESTABLISHED 1825
BLUNDELL & CROMPTON
LIMITED

ENGINEERS : SHIP REPAIRERS
COPPERSMITHS : FOUNDERS Etc.

Telephone: EAST 6001 & 3838 (8 lines)

Telegrams: Blundell. 'Phone, London



Specialists in
URGENT HULL AND MACHINERY REPAIRS

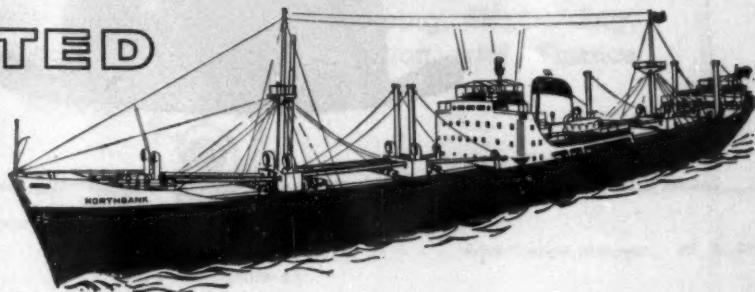
Sole Manufacturers

BLUNDELL 'ATMOS' VALVES
for Pressure and Vacuum Relief
FLAME ARRESTERS, ETC.

WEST INDIA DOCK ROAD, LONDON, E.14

Branch Works: TILBURY DOCKS, ESSEX. Telephone: Tilbury 2033

THE BANK LINE LIMITED



WORLD-WIDE SERVICES

Managers :

**ANDREW WEIR
& COMPANY LIMITED**

Baltic Exchange Buildings, 21, Bury Street, London, E.C.3

American & Indian Line
American & Indian Branch Line
Bombay American Line
American & Oriental Line
Calcutta & Pakistan — Brazil &
River Plate Service
Indian Chilean Line
Indian African Line
India Natal Line

Pakistan Africa Line
Pakistan Natal Line
Oriental African Line
U.S. Gulf — Australia Line
U.S. Gulf — New Zealand Line
U.S. Gulf — South Africa Line
U.K., Continent — Papua, New
Guinea & Solomon Islands
Service

UNITED BALTIC CORPORATION LTD.

21 MINCING LANE, LONDON, E.C.3

Telegraphic Address : ORIENTEAKO, London.
Telephone : MANSION HOUSE 3311. Telex : 28130

Operating regular services :

LONDON and HULL to GDYNIA/GDANSK

**LONDON and HULL to
HELSINKI, KOTKA, TURKU/ABO,
MANTYLUOTO and other Finnish Ports**

**UNITED KINGDOM PORTS to
LENINGRAD and/or RIGA**



North Continental Ports to :

NORTH AFRICA, WEST ITALY and SICILY.

MAC ANDREW LINE

SPAIN AND MOROCCO Regular Services from LONDON, LIVERPOOL and Principal U.K. Ports

Express Services by fast Motorships from :
LONDON and LIVERPOOL to BARCELONA

HALL'S LINE TO LISBON and GIBRALTAR. Express
Joint Service by fast Motorships fortnightly from London to
Gibraltar

GLYNN LINE TO WEST ITALY AND SICILY. Regular
fortnightly Sailings from Liverpool to Genoa, Leghorn and Naples
For Freight and Passage apply to :

MACANDREWS & CO. LTD.

PLANTATION HOUSE, MINCING LANE, LONDON, E.C.3. Telephone : Mansion House 1543, Telex : 24227
or ROYAL LIVER BUILDING, LIVERPOOL, 3. Telephone : Central 3922, Telex : 62-324.

Branch Houses at : ★Barcelona, ★Madrid, ★Tarragona, ★Burriana, ★Valencia, ★Gandia, ★Denia ★Carthagena, ★Almeria, ★Malaga,
Branches with ★ act as Lloyd's Agents.

Agencies in all other principal ports.



high standard

The Royal Standard sets the world standard for quality and precision. Exclusive features: Magic Margin, Touch Control, Line Meter, Twin-Pak Smudgeless Ribbon-Changer, Slip-Stream Silent Speed and Royaltone Colours head the list. It is the office typewriter with the highest records for speed, ease, durability, dependability and distinction. From £ 71.10.0

Royal McBee,
36 Worship Street, London
E.C.2, MONarch 4020

ROYAL STANDARD



The SHIPPING WORLD AND WORLD SHIPBUILDING

The Oldest Weekly Journal devoted to Shipping, Shipbuilding, Marine Engineering, Shiprepairing, Aviation and Finance

FOUNDED 1883



Editor: PETER DUFF

Chairman of The Shipping World Ltd: F. D. H. BREMNER

Associate Editor: IAN BREMNER

Advertisement Manager: W. MURRAY

Annual Subscription £5

Offices: 127 Cheapside, London EC2

Telephone: Monarch 2801

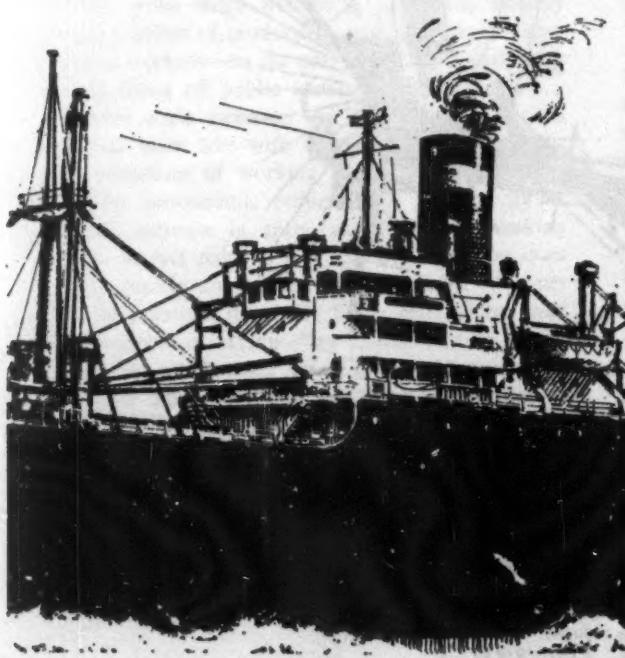
Telegrams: Shipping World, London

Vol. 145

6 DECEMBER 1961

No. 3565

Effective Use of Working Hours	433	Weir "S" Type Deseator	443
Current Events	433	Shell Tanker <i>Solen</i>	444
On the "Baltic"	436	Steam-Assisted Oil Burner	445
British-Built Ship for Norway	437	Recent Technical Developments	446
Griehaber Tank Gauging System	438	News from Overseas	447
Last of Twelve for Palm Line	439	Fast Patrol Boat <i>Ferocity</i>	449
Oil Topics	440	New Contracts, Launches, Trial Trips	450
Recent Ship Sales	440	Maritime News in Brief	451
Portuguese Passenger Liner	441	Fifty Years Ago	452



Fast freight services of the "Blue Riband" fleet

COVERING THE WHOLE OF THE EAST COAST
RANGE OF U.S.A. PORTS FROM MAINE TO FLORIDA

The Atlantic "Blue Riband" holder s.s. "United States" is flag ship of a fast fleet of over fifty-five Company-owned ships offering the following freight services:

EUROPEAN SERVICE

from	to
LONDON, SOUTHAMPTON	NEW YORK, BOSTON
LIVERPOOL	PHILADELPHIA
MANCHESTER, GLASGOW	BALTIMORE
DUBLIN & GERMAN	HAMPTONROADS
DUTCH, BELGIAN, FRENCH	WILMINGTON N.C.
& SPANISH PORTS	CHARLESTON
	SAVANNAH, JACKSONVILLE
	& MIAMI

FAR EAST SERVICE

Nine 20-Knot "Mariner" vessels sail between U.S. East Coast Ports and Far Eastern Ports.

AUSTRALIA SERVICE

Regular sailings between U.S. East Coast ports and Australia.

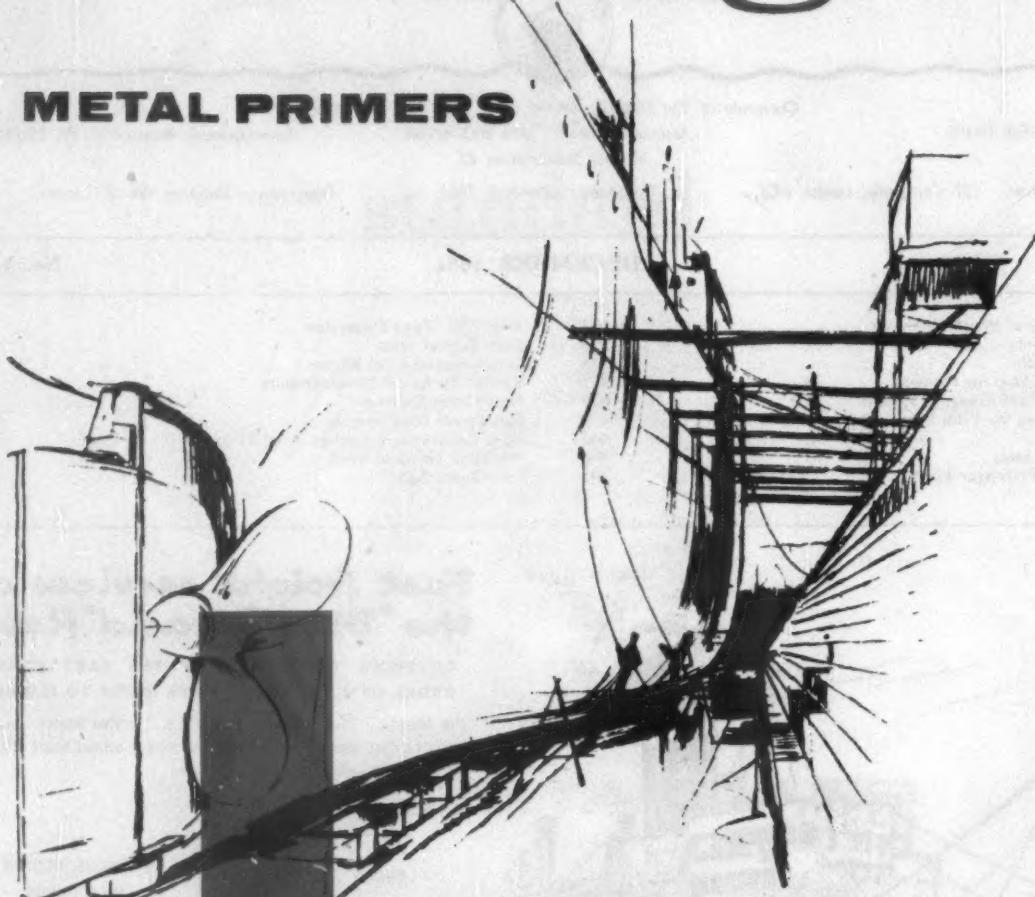
HEAD FREIGHT OFFICE: 38, LEADENHALL STREET, LONDON, E.C.3.

United States Lines



Ferrogel

METAL PRIMERS



CRAIGS
MARINE
PAINTS



Special problems require special solutions; for example, present high costs persuade shipowners to reduce the time involved in docking to a minimum. This has meant that many ships go to sea inadequately protected against corrosion. Ferrogel provides the solution to this problem. It is a Thixotropic Metal Primer enabling the equivalent of three coats to be applied in one application. Sea trials have proved Ferrogel's undoubted effectiveness. Full protection is gained—time is saved—docking and labour costs are reduced.

Technical leaflets are available on request from

JOHN S. CRAIG AND CO. LTD. 12-40 BOGMOOR ROAD GLASGOW SW1

Manufacturers of Marine Paints since 1867



THE SHIPPING WORLD

EFFECTIVE USE OF WORKING HOURS

LAST WEEK the British Institute of Management held a one-day conference on the subject of the implications for management of shorter working hours. Mr Norman Sloane, Q.C., director of the Shipbuilding Employers' Federation, addressed the conference on the subject of the effective use of working hours, which is, of course, the crux of the matter, for if working hours are to be reduced—as they are being progressively reduced—industries must by some means or other increase their output to compensate for the cost of the reduction. In passing, Mr Sloan commented that he had heard at least one trade union leader state that after the 40-hours week is achieved, unions must press for a 36-hours week. "One can only wonder at what stage the line must be drawn. Why stop at 36? Indeed, why work at all?" Perhaps Mr Sloan had read the masterly essay by Sr Piero Malvestiti, president of the High Authority of the European Coal & Steel Community, on *Sources of Energy and Industrial Revolutions*, in which he states: "It is not unreasonable to fear that the time will come when there will be a small and steadily shrinking number of producers—managers, technicians, specialised workers—on the one hand, and a vast army of people living off public assistance on the other".

Whatever one's views on the desirability of such a future, one must live with the present, and consider how a reduction of working hours can be achieved without an uneconomic reduction of productivity or an overall increase in costs, assuming that working hours are in fact reduced and that the reduction does not mean merely an increase in the number of hours worked at overtime rates. Mr Sloan referred to three possible sources of saving—"by re-examination of the time lost by tea breaks, by a better observance of starting and stopping times, and by a reappraisal of systems of shift working". With regard to the first two measures, Mr Sloan brought out the point that time spent in preparing to get down to work or to make ready to depart (or in taking a tea break) may have been all very well when the working week totalled 54 hours, but with a working week of 40 hours the percentage of time wasted is higher and the cost of time

wasted has risen to a marked degree since those days. Insistence on the observance of starting and stopping times is a function of management, but in these days it can only be achieved by the cooperation of the trade unions, and efforts in the past to enforce observance have frequently been met by strike action. Fortunately, Mr Sloan thought that there was an increasing awareness among the trade unions of their responsibility in this connection and a willingness to recognise that men are morally obliged to give a fair day's work for a fair day's pay. The point is that any form of time wasting is harmful to competitive ability, and must be eradicated. "With the prospect of the Common Market looming large before us, I am convinced that we must eliminate all these practices if we are to be able to take advantage of the great prospects that will lie ahead."

From the economic point of view the installation of expensive modern machinery and plant is wasteful unless it can be worked for more than eight hours in a single day. The answer to this is shift working. Although this method is not suitable for all industries—and it has its social complications—there is no doubt that it could be introduced to a greater extent in British shipyards and engine works, as it has been in some Continental yards. There is also, of course, the problem of labour shortage. Nevertheless, Mr Sloan felt sure that "if management were to apply themselves seriously to the task of cutting out unnecessary labour, employees who were so displaced would be available to take part in shift working". Mr Sloan's argument certainly deserves serious examination on the part of many industries, not excluding the shipbuilding industry. As he said, the problem is complex and not capable of easy solution. One of the most important, although Mr Sloan did not specifically mention it, is the difficulty of overcoming the trade unionist's traditional fear of "working himself out of a job". But if working hours are to be reduced and British industry is at the same time to be competitive, particularly in a Common Market background, radical changes will have to be accepted willingly, by management and workers alike.

Current Events

"Freedom to Operate"

FOLLOWING hard on the heels of the Minister of Aviation's decision to rescind the licence granted to Cunard Eagle Airways to operate an Atlantic passenger service, came the announcement by the Air Transport Licensing

Board that licences have been granted to the two principal independent airlines to operate to a number of points in Europe, and also on some of the major domestic routes. It is, of course, too early to become enthusiastic over these approvals; the Cunard Eagle case made it all too obvious

that a Licensing Board licence is no guarantee that the independent will be allowed to operate. British European Airways have so far given no indication whether or not they intend to appeal, but should they do so, it will only be when—and if—the appeal goes against the State corporation that British United Airways and Cunard Eagle will be able to feel reasonably secure. Even then, further obstacles will have to be surmounted before flights to Europe can start. Commercial aviation is today bound hand and foot by the red tape of inter-Governmental bilateral agreements, and the like. It will need long, and no doubt delicate, discussions by the Ministry of Aviation before foreign governments will give British operators additional opportunities to capture traffic which they consider should be carried by their national airline. It was undoubtedly with these deliberations in mind that the Air Transport Licensing Board decreed that the licences should become operative on 1 April 1963. It may well be that the 16 months available will prove insufficient, and that on some of the routes the difficulties will prove insurmountable. It will probably not be before 1964 that we will be able to judge just how much "freedom to operate" the independent airlines have, in fact, been given.

Limitations

EVEN assuming that appeals and bilateral agreements go in their favour, the margin for success will still be very limited. British United Airways have received permission to operate from London to Paris, Amsterdam, Zurich, Basle, Tarbes, Genoa, Milan, Athens, Barcelona, Palma, Malaga, Lisbon and Madeira. Cunard Eagle are to operate from London to Glasgow, Edinburgh, Belfast, Dublin, Geneva, Copenhagen and Stockholm; from Manchester or Birmingham to Nice, and from Liverpool to Dublin. In addition, the Liverpool-based firm Starways has received a licence to operate from Chester to the Isle of Man. The list of places to be served may look impressive, but in no case is a frequency of more than one return flight per day allowed (except Paris, where two per day are permitted), and in the majority of cases it is to be two or three flights per week. These are not the types of frequency to permit high utilisation of aircraft, and it is essential with the modern jet airliner that it should spend at least eight hours per day in the air if it is to be profitable. Certainly, it would not appear that the independents have been given the incentive to start on a lavish spending spree to purchase new equipment. In fact the only thing that can be said in favour of the licences is that they are a move in the right direction.

More Pay-Offs at Belfast

NOT ONLY is the present volume of work in the Belfast shipbuilding and marine engineering industries insufficient to maintain the current labour force in employment throughout the early part of next year, but approximately a further 1,500 men will become redundant on the shipbuilding side between March and June. This information was given by Harland & Wolff Ltd on November 28 to a delegation of trade union officials from the Confederation of Shipbuilding & Engineering Unions with whom they discussed employment prospects. The 1,500 redundant workers must be added to the 7,000 already paid off during the past year to get a picture of how the employment figure has been run down through lack of orders. The statement said that from next July onwards the numbers employed would depend on the ability of the company to obtain further contracts in the present highly competitive market. There are 18 building slips at Belfast. At present five ships—three

tankers and two cargo liners—are being built, and two others are being fitted out. Only one contract for a new ship has been received in the past year. An extensive modernisation programme is under way in the Musgrave Yard, the largest of Harland & Wolff's four Belfast yards, which involves the building of what will be one of the largest prefabricating shops in Europe.

Vibration Investigations

WHEN she runs trials later this month, the Union-Castle passenger liner *Transvaal Castle* will be the subject of various tests by scientists of the British Shipbuilding Research Association. They will be assisted by staff from the builders of the ship, John Brown & Co (Clydebank) Ltd. This sort of work is of course done by B.S.R.A. on a number of ships—a recent example was the 65,000-dwt Shell tanker *Serenia* (SW. 26.7.61)—but in the case of the *Transvaal Castle* particular attention will be given to the subject of vibration, which is of special importance in a passenger liner. Special instrumentation has been arranged on the main machinery to enable a complete vibration analysis to be carried out by the builders' own design staff, who will also record machinery and boiler performance, while Lloyd's Register of Shipping will investigate the movement of turbines and gearing and will carry out strain gauging to determine the stresses in the gearwheel spindle. The B.S.R.A. will be giving attention to vibration in the propeller shaft bossings, and in the thrust block seatings. When the *Transvaal Castle* docks at Falmouth on Friday the bossings will be excited by a mechanical vibration exciter, which applies a known force over a range of frequencies, and readings of the vibration amplitudes produced will be compared with operational results, taken when the ship runs her full power trials on the Arran mile on December 13.

Liverpool Port Debt

THE ANNUAL report and accounts of the Mersey Docks & Harbour Board point the reason for the recently announced 10 per cent increase in the rates charged on ships and goods. The year 1960-61 was a record one for Liverpool all round. Ship tonnage, including vessels using the river only and paying harbour rates, went up from 29.3 to 30 mn nrt; cargo tonnage rose from 17.5 mn tons to 23.8 mn tons (largely due to the increase of 5½ mn tons of petroleum imports with the opening of the Tranmere terminal); gross revenue rose by £864,000 to £10,340,000; and even the operating surplus on the docks at £3,237,000 was well up on any of the previous five years. The snag in all this success story is the debt, in other words the financial manifestation of the large physical improvement schemes that are now nearing completion. Interest charges absorb £3,229,000, which is £545,000 more than in the previous year and £1,268,000 more than five years ago. The result is that the net surplus on this £83 mn undertaking is reduced to a mere £7,700. In the previous year the net balance on the dock undertaking was £76,449 and the year before it was £19,839 after £200,000 had been allocated to reserves. Next year the interest charges, to which a further £270,000 odd must be added on the conservancy account, will be higher still. The port dues have been held at their present level since the first half of 1957. Since the end of the war the Board has spent about £45 mn on modernisation and improvement works. Without subsidy, without help in the formidable dredging problems of the Mersey, without any kind of rake off from municipal taxes—all, be it noted, planks of the port structure in some countries—schemes of improvement of this order cannot finance themselves. The alternative to progress is not economy but stagnation.

Leith Port Plans

LEITH Dock Commission has prepared a plan of development costing £4 mn which will permit the port to accept the largest cargo ships afloat except the very large tankers. The specific proposals include the construction of a lock of 850ft by 110ft by 37ft at the entrance of the Western Harbour, converting the tidal basin into an enclosed basin; dredging the approach channel to provide a minimum depth of 40ft at mean high water; impounding the water within the dock to a height of one foot above high water spring tides; widening and deepening the Imperial Dock entrance; dispensing with the four existing dock locks in the Harbour; filling in part of the east and west docks to provide additional quays and 11 acres of building land. The advantage of this scheme is that it will make full use of existing quays and walls and will not involve the very costly work normally needed for new dock construction. Ships will have complete freedom throughout the dock system at all times of night or day and operational costs will not be any greater than at present. The importance and urgency of the scheme lies in the fact that Leith will benefit from any Common Market expansion and will be equipped to meet that trade.

The Scott Story

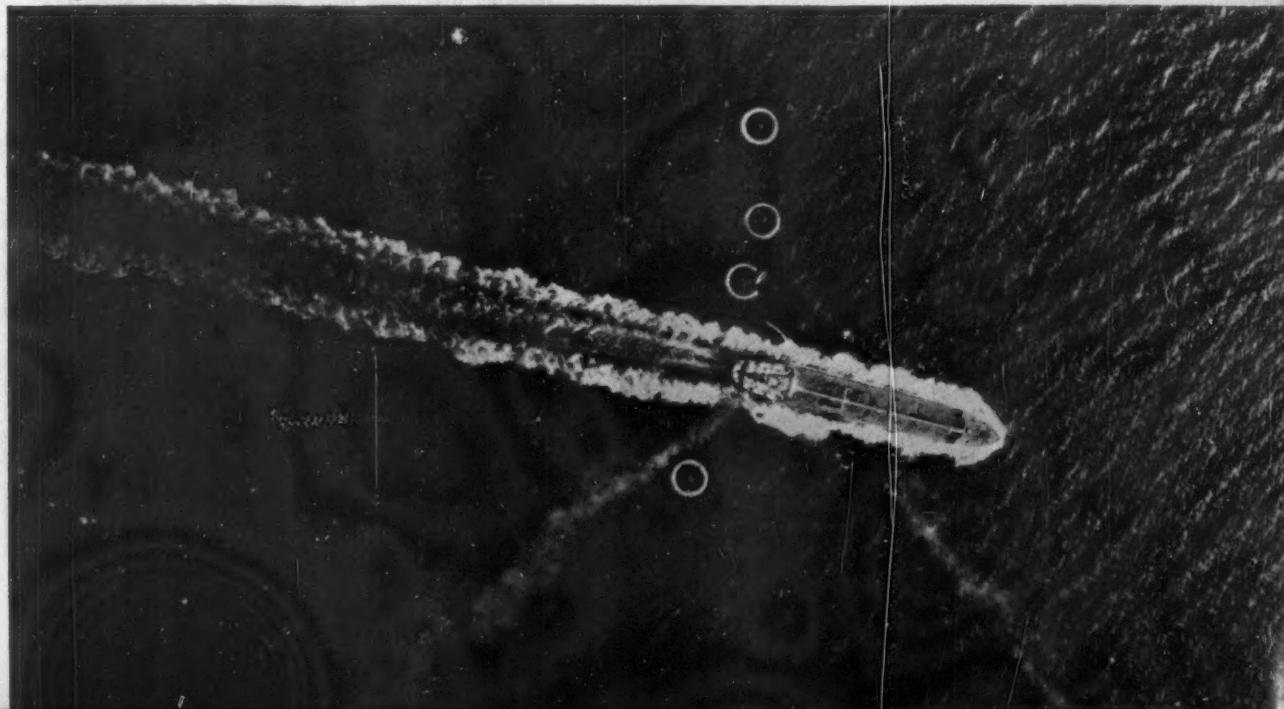
IT is fitting that the celebration of a longevity of 250 years by a leading firm of British shipbuilders and marine engineers should be given more permanent form than the many articles written at the time "for immediate consumption" in the daily and technical press. *Two Hundred & Fifty Years of Shipbuilding—By the Scotts at Greenock* does the job handsomely. Produced by James Jack Advertising Ltd, it is a volume of 300 pages in which lavishness of style is always contained within the traditional dignity of the printer's and bookbinder's crafts at their best. The illustrations are copious; there are about 180 altogether. They include Scott-built ships of all kinds and sizes, machinery for warships and merchant ships, ship interior views which enlighten the text, views of different sections of the shipyard and engineering works, and portraits of the 11 members (including one son-in-law) of the remarkable family which holds such a unique place in shipbuilding annals. A good deal of the volume springs from earlier editions. This is, in fact, the fourth history of the firm to be published. But much was re-written for

the present edition and the story now has an appropriate conclusion—as temporary as the book itself—with an account of the yard and engine works reorganisation carried out in the last few years. The Scott story, with its coverage of sail, steam, diesel, warship, yacht, passenger liner, cargo liner, tanker and specialised carrier, is a microcosm of maritime progress through 2½ centuries. And it is by no means ended.

Bridge Opening Signals

VESSELS navigating the Hackensack River are reminded of the need to have particular regard to the regulations concerning passage through the Lincoln Highway bridge by the United States Court of Appeals in the case of the *Lembulus*, which struck the partly opened bridge and suffered damage when her foremast and mainmast carried away. The owners of the vessel sought to recover damages from the operators of the bridge, on the ground that it was right to assume that, when the bridge began to open this was an invitation to pass through. The regulations provide that when a vessel approaches within signalling distance of the bridge, three blasts on the whistle shall be given by the vessel and, if the bridge is ready for opening, the bridge operators will answer with three blasts. In the event of there being any delay in the opening of the bridge the answering signal will be two long blasts, and when it is possible to open the bridge three blasts will be given. In the case of the vessel concerned she gave the appropriate signal that she required the bridge, and received a reply of two long blasts, due to the operators of the bridge having some difficulty with the operating mechanism but, as at the time this signal was given, the bridge began to open the vessel proceeded, with the result that she hit the partly opened bridge. In ruling that the vessel was solely to blame the Court, speaking of the regulations, said that they were not merely prudent regulations but also binding enactments, and must be rigorously enforced in order to attain the object for which they were framed.

TANKER SEEN FROM ABOVE.—One of the photographs taken by Hunting Surveys Ltd of the Shell tanker "Aluco", 18,750 dwt, in connection with the trials for measuring ships' speeds by radar which were the subject of comment in these pages recently. The "Aluco" is seen passing through the moored buoys, which have been indicated by white circles



ON THE "BALTIC"

MODIFICATION OF GRAIN LOADING REGULATIONS

By BALTRADER

IN VIEW of the enormous importance of grain as a cargo for tramp shipping, it is remarkable how many ships are operated without grain fittings and are therefore precluded from carrying this important commodity from many places. However, the cost of a full set of wooden grain shifting boards is considerable and an owner can hardly be blamed if he is reluctant to take the plunge unless he can be sure of being able to average the cost over several voyages. The situation is further aggravated by the fact that stevedores in a number of countries have a reputation for doing such damage to boards during discharge that replacement and re-erection for a subsequent voyage is again a very costly operation.

Nevertheless, apart from the latest self-trimming bulk carriers, the majority of modern ships are grain-fitted and they often carry patent steel shifting boards which are less liable to be damaged and mislaid than the old-fashioned wooden ones. During this past year a number of maritime nations, including Britain, have decided to accept a modification of previous grain loading arrangements to bring them into line with the requirements of the 1960 International Convention for the Safety of Life at Sea. In practice, the result is some saving in cost, for although tween-deck bins and feeders are as essential as ever, it generally means that for ships with steel centreline bulkheads there is no need for additional lower hold fittings. In order to comply with the new requirements a British owner has to send grain loading plans and stability information for his ship to the Ministry of Transport for approval. Australia, Canada and the United States are countries which are accepting the 1960 Convention requirements and ships with loading plans duly sighted have been loading there in recent months. Needless to remark, not all countries of the world concern themselves with the above grain loading regulations which are designed to protect the safety of life at sea, and there are still many places where it is possible to load bulk grain without shifting boards. A British ship, however, is expected to comply fully with the British grain loading regulations wherever she trades and the same would apply to vessels under flags of many of the other principal maritime nations.

Declining Rates

Freight rates continued their downward trend on the markets last week and prompt tonnage still seems far too plentiful in most areas. The Christmas/New Year holidays are still some way off, but on the currently weakening markets owners are showing some anxiety to obtain cover for any vessels they may have ready between now and early January, for the holiday period is notoriously difficult for any owner unlucky enough to have to press a prompt ship on an unwilling market. The scrap rate from the United States East Coast to Japan had remained steady, for a Liberty type vessel, at \$140,000 for nearly five months, but with a stream of ballasters from the Far East moving across the North Pacific towards Panama a break was bound to come. Sure enough, last week an early ship accepted \$135,000 from the U.S. Gulf and the charterers concerned had obviously decided that it was no longer reasonable to maintain their rates steady while all round them rates in other trades were on the decline. In the Far East Liberty tonnage in particular is having a very thin time and the losses incurred by owners on one or two recent soya bean fixtures from China to Europe, for example, are known to be heavy. A number of warbuilt

oilburners have ballasted from the Far East to Mormugao for ore cargoes back to the Mediterranean area, but this also must show disastrous results, although it does have the one advantage of getting the ship back fairly quickly into an area where she can again hope to earn a profit. However, in spite of the generally disappointing trend on the markets and an apparent superfluity of tonnage, lower rates may stimulate more business, especially when the coming holiday period is over.

The Freight Markets

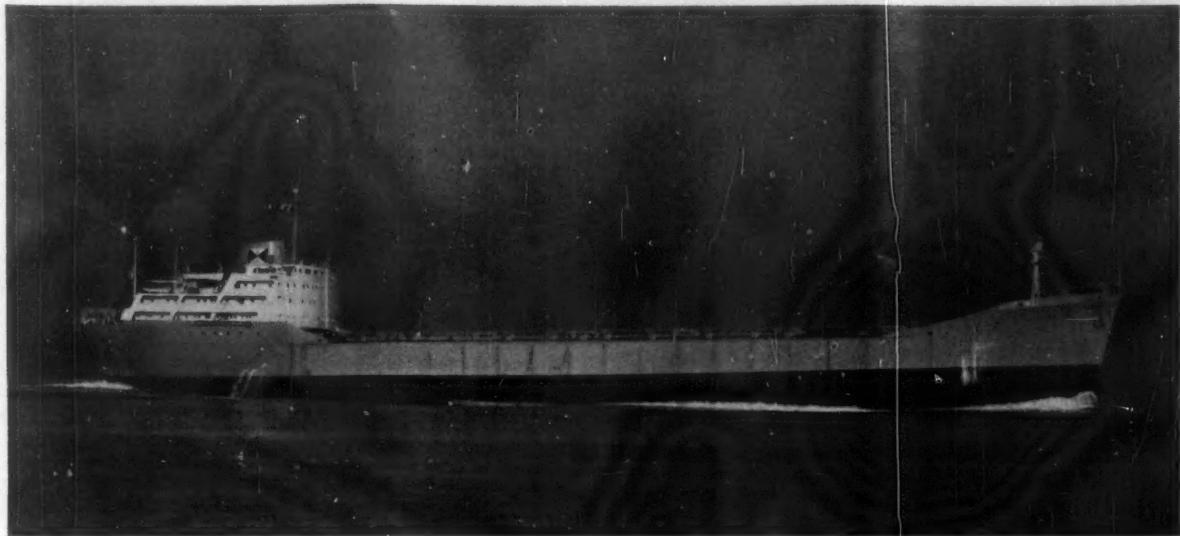
Lower rates were paid in most directions on the freight markets last week. In the trans-Atlantic trades fixtures included *Colytto* with heavy grain from the U.S. North of Hatteras to Glasgow at 41s 6d, December 23/January 5, and the *Bretwalda* takes a similar cargo from the same loading area to Hull at 45s, December 27/January 9. In the first fixture however charterers agreed 3,000 tons per day discharge on gross terms instead of the more usual 1,000 tons per day discharge which was the basis of the second fixture. Other fixtures included *Polarwind* with heavy grain from Albany, completing New York, to Antwerp, Rotterdam or Amsterdam at \$5.30 free discharge, December 13/27, and the *Ercta* takes a similar cargo from the U.S. Gulf to Avonmouth at 48s 9d, January 12/31.

Further sugar chartering was reported from Cuba to the Black Sea and February/March tonnage was fixed at the unchanged rate of 68s f.i.o. and free taxes. As already mentioned the scrap rate from the United States East Coast to Japan was reduced for the first time for many months and fixtures included *Ariston*, 9,500 dwt for cargo, 475,000 cu ft bale, from the U.S. Atlantic to Japan at \$135,000 f.i.o., December 15/31, and earlier in the week the same rate had been paid for a December ship from the U.S. Gulf. Hampton Roads coal fixtures included *Western Venture* to Cork at \$5.20 free discharge, December 20/January 5, and the 20,000-ton *Defiant* was fixed with a similar cargo from the same loading area to Japan at \$8.55 free discharge with the usual 6 days shinc, January 1/20. On the River Plate market a vessel was reported fixed with bulk wheat to picked ports U.K. at 72s 6d, January 1/19, and the tanker *Saturnus* takes heavy grain from Up River Plate, completing Buenos Aires, to Antwerp/Hamburg range/Genoa/Leghorn/Naples at 57s 6d, with other options including limited clause 6, January 15/February 20.

On the South African market fixtures included a vessel with maize from Cape Town to Rotterdam at 52s 6d, option Rotterdam and Bremen or Hamburg at 56s 3d, Bremen and Hamburg at 58s 9d, January 20/February 10.

There was a fair activity on the Australian market with fixtures including *Irish Sycamore* with bulk wheat ex silo from West Australia to the U.K. at 75s, option London at 72s 6d, Antwerp/Hamburg range at 70s, Eastern States loading at 10s more, January 29/February 24. An interesting fixture was that of the *Cruzeiro do Sul* with bulk wheat ex silo from West Australia to Algeria at 65s free discharge, January 15/February 20. On the North Pacific a vessel, 9,500 dwt for cargo, 475,000 cu ft bale, was fixed with scrap from California to Japan at \$70,000 f.i.o., January 5/20.

Timecharter fixtures included *Woolwich* (ms), 9,978 dwt, 492,000 cu ft bale, 13½ knots on 13 tons fuel oil plus ½ ton diesel oil, at 21s 6d per ton, for one West African round, delivery London, December 8.



British-Built Ship for Norway

BULK CARRIER DELIVERED BY LITHGOWS LTD

WITH THE recent delivery of the bulk carrier *Mylla*, 22,600 dwt, to the Norwegian shipowners Simonsen & Astrup, Oslo, another valuable export order has been fulfilled by a British shipyard. This new ship has been built by Lithgows Ltd, and although she is the first vessel that they have built for Simonsen & Astrup, she is their twenty-fourth vessel to be built for Norwegian owners since the last war. The *Mylla* was launched on May 15 this year and is the fourth ship in the company's fleet. She is trading initially between the U.S.A. and Japan.

The principal particulars of the *Mylla* are as follows:

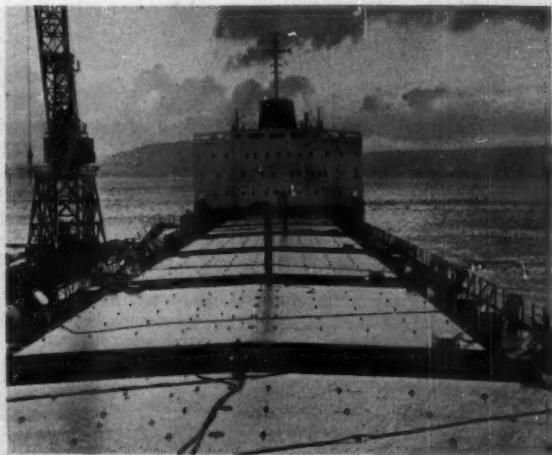
Length o.a.	569ft
Length b.p.	535ft
Breadth extreme	74ft
Breadth moulded to upper deck	44ft 9in
Draught, loaded summer	31ft 10 1/2in
Deadweight	22,600 tons
Gross tonnage	15,543 tons
Net tonnage	8,605 tons
Machinery output (service)	8,900 bhp
Designed trial speed	15 knots
Cargo capacity:	
Bale	985,714 cu ft
Grain	1,115,965 cu ft

The *Mylla* has been specially designed for the carriage of all types of grain without shifting boards, and is self-trimming. She can also carry other bulk cargoes, such as coal, iron ore etc. During her design and construction the firm of Lystad & Jantzen acted as consultants on behalf of the owners. Classed to the rules of Norske Veritas ~~PAI~~ A1, with notation "T" for the carriage of heavy cargoes, she also meets the requirements of the Norwegian Sea Control and complies with the Suez and Panama Canal Regulations.

The vessel is a single-decker with all accommodation and machinery aft. Her hull is divided into seven main cargo holds and the double bottom tanks are carried up to the sides to form hoppers. In order that she may be self trimming, top wing ballast or grain tanks with a 30-degrees slope are fitted. These tanks have been provided with small hatches to be used when carrying grain. No

cargo handling gear is fitted since this will be carried out by quayside installations.

With the exception of the upper deck seams the hull is mainly of welded construction. In contrast to normal British practice the gunwale is rounded, with a 24in radius. The transverse bulkheads and top wing tanks are corrugated. It is believed that Lithgows were the first to adopt the idea of corrugated hopper wing tanks. The reason for doing so is that they are more easily swept clean after carrying grain. The double bottom and hopper side tanks are used for water ballast—except under No 7 hold where a reserve oil fuel or water ballast tank is located. The main oil fuel bunkers are at the after end of the engine room. The MacGregor single-pull steel covers with which the holds are fitted are operated by two hydraulic winches. No wood sheathing has been fitted in the holds, but the tank top plating has been increased to enable heavy cargoes to be carried.



View from forward showing the MacGregor single-pull steel hatch covers

There is a 3-tons derrick forward and two small stores derricks aft. The main deck machinery is hydraulically operated and comprises a windlass on the forecastle deck, a mooring winch on the poop deck and two winches for operating the hatch covers. No 1 hatch measures 36ft by 36ft 6in, and the remaining six hatches 39ft 3in by 36ft 6in. No 1 hatch is operated by a wire lead from the windlass, while Nos 2 to 7 hatches are arranged for operation by endless chains fitted port and starboard, with push-button control.

The two hydraulic winches on the main deck have been suitably modified to drive the endless chains from gipsies on the end of the shafts. Dog clutches are used to engage or disengage the drive from the winch shaft to the gipsies. This arrangement of endless chains will allow two hatches to be opened simultaneously by one winch, and it is possible to disconnect the chain drive from any given hatch, thus allowing single hatches or pairs of hatches to be opened as required. This system enables a single hatch to be opened in less than one minute after the release of the securing cleats and raising the eccentric wheels. All holds and wing tanks are fitted with a CO₂ fire extinguishing system.

The propelling machinery in the *Mylla* consists of a Rowan-Sulzer turbocharged two-stroke type RD diesel engine having six cylinders each of 760mm bore and 1,550mm stroke. The maximum service power at 119 rpm is 8,900 bhp, and the trials output 9,790 bhp. The electrical supply is 440 volts, 3-phase 60 cycles AC, supplied by three Moss Værft diesel engines, each driving a 220-kW Hansa alternator.

Saturated steam for auxiliary and domestic purposes is generated in a Cochran vertical type composite boiler, capable of utilising the exhaust gases from the main engine, and also fitted with Laidlaw Drew oil-firing equipment. A packaged-type Atlas freshwater generator is fitted, capable of producing 16 to 21 tons of fresh water in 24 hours when utilising waste heat from the main engine jacket cooling water.

RECENT PUBLICATIONS

THE first copies of a book entitled *An Outline History of the Oil Engine and its Lubrication* have recently been printed for Shell-Mex & BP Ltd, Shell-Mex House, Strand, London WC2. This interesting little book is intended for free distribution to anyone caring to acquire a copy and gives an outline of the evolution of the modern oil engine and the parallel evolution of oil-engine lubricants. The book is well illustrated and contains a considerable amount of information of historic interest as well as the present day material.

THE second edition of *Molybdenum Disulphide in action* has been received from K. S. Paul (Molybdenum Disulphide) Ltd, Angel Road, London N18. This contains a number of new reports on applications of solid lubrication by molybdenum disulphide, including sections on the prevention of thread seizure and welding at high temperatures, and dry and semi-dry lubrication.

A NEW publication received from the International Nickel Co (Mond) Ltd deals with the properties and applications of nickel-containing magnetic materials. Each section of the booklet covers early development, uses, further progress and recent investigations and applications for the particular range of materials under review. Free copies may be obtained from the Publicity Department at 20 Albert Embankment, London SE1.

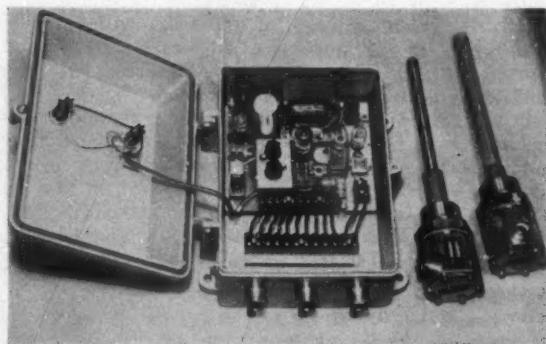
THE wide use of coated Terylene fabrics for various industrial purposes is made obvious in a brochure received from Imperial Chemical Industries Ltd, Millbank, London SW1. Coated Terylene fabric which is completely resistant to rotting and mildew attack, can be used for lifeboat covers, hatch tarpaulins, oil booms, marker buoys, awnings and inflatable craft to mention only a few applications.

GRIESHABER TANK GAUGING SYSTEM

Capacitive Measurement with Remote Indication

A NEW capacitive measuring system for gauging the depths of the contents of tanks, silos or other containers has been developed by a German firm, Gebrüder Grieshaber, and is marketed in the United Kingdom by I.E.C. (Electronics) Ltd, 39 Parliament St, London SW1. The system gives continuous remote indication. It is based on an emitter, operated by alternating current, and a measuring amplifier. The emitter consists of an electrode, normally rod-shaped, which is mounted at the top of the tank or container, projecting downwards into the contents. The equipment actually measures the change in capacitance between the electrode and the container as the electrode is gradually immersed in the contents of the container. It is thus suitable for measuring the degree of filling of small containers, in which the electrode can extend over the full depth of the tank, or for measurement of ullage during the topping-up of large tanks.

In the head of the electrode there is an electrical device, consisting of an impedance converter for transforming a low-impedance high-frequency input voltage and a bridge arrangement in which the variable arm is the capacitance between the electrode and the wall of the container. Any alteration in the contents-level in the container causes a change in the capacitance between electrode and container wall which simultaneously causes a change of voltage at the bridge. The resulting voltage drop at the bridge is rectified by a silicon rectifier. This DC voltage, which changes linearly with changes in contents-level, is taken to a high-impedance, stabilised, two-stage amplifier. At the output of the amplifier



The Mark 81.02 control switch, which can control input to the container, shown with its lid open. Two typical electrodes are on the right. That on the extreme right is coated with "Teflon" for wide temperature range applications

are one or more indicating instruments which show continuous measurement of the contents-level. The measuring amplifier and an HF generator for supplying the bridge circuit in the electrode head are housed together in a dust-proof and spray-proof case, which can be installed at any desired distance from the electrode.

In place of the measuring amplifier for continuous measurement of contents level, a switching amplifier can be installed which releases a switching pulse through a thyratron-controlled relay when a pre-determined contents-level is reached.

The Grieshaber process has the great advantage that, because the HF voltage is supplied to the electrode at low impedance and the DC voltage is connected back at relatively high impedance, any distance between the electrode inside the container and the measuring amplifier which is likely to be required in practice can be covered without affecting accuracy of measurement. The connection between the electrode and the measuring amplifier can be made with ordinary electrical cable without special screening. Because of the very low measuring voltage and the very low current at the electrode, the electrode may also be used with inflammable powders and liquids without danger of explosion. It is stated that it would be suitable for use in oil tankers even when carrying low flashpoint cargoes.

Last of Twelve for Palm Line

"ILESHA PALM" DELIVERED FROM SWAN HUNTERS

THE LATEST and last of a series of 12 cargo liners for the Palm Line has been delivered from Swan, Hunter, & Wigham Richardson Ltd, Newcastle. The series is estimated to have cost the Palm Line about £10,000,000; the first was delivered in 1955. The main particulars of the last ship, the *Illesha Palm*, are:

Length b.p.	...	...	...	...	430ft
Breadth moulded	...	...	...	...	62ft 6in
Depth moulded to shelterdeck	...	...	...	...	36ft 11in
Draught	...	...	...	...	25ft $\frac{1}{4}$ in
Deadweight	...	...	...	...	8,800 tons
Gross tonnage	...	...	...	...	6,682 tons
Machinery output	...	...	...	...	4,500 bhp
Service speed	...	...	...	...	14 knots

The ship has been designed as an open shelterdecker with cargo space divided into five holds. There are four deep tanks below No 3 hold for the carriage of palm oil, dry cargo or water ballast. The holds are also suitable for carrying heavy logs etc, while the shelter deck has been stiffened for the carriage of heavy deck loads. Ten 5-tons derricks are arranged at each of the five hatches and in addition two 10-tons derricks are fitted to No 3 hatch; two 15-tons derricks at Nos 2 and 4 hatches; and a heavy lift derrick of 50-tons capacity at No 2 hatch.

Accommodation for officers and deck crew has been arranged amidships, there being some particularly fine examples of cargo ship public rooms provided. Greasers and catering staff have been accommodated in single berth cabins in the poop.

The propelling machinery consists of a Swan Hunter-Doxford diesel engine having four cylinders of 670mm diameter with a combined piston stroke of 2,300mm. The engine, which is arranged to run on boiler fuel, is designed to develop 4,500 bhp at about 118 rpm. It is of the diaphragm type and uses the timing valve system of fuel injection. The latest system of starting, through a rotary air distributor, is employed. All the auxiliary



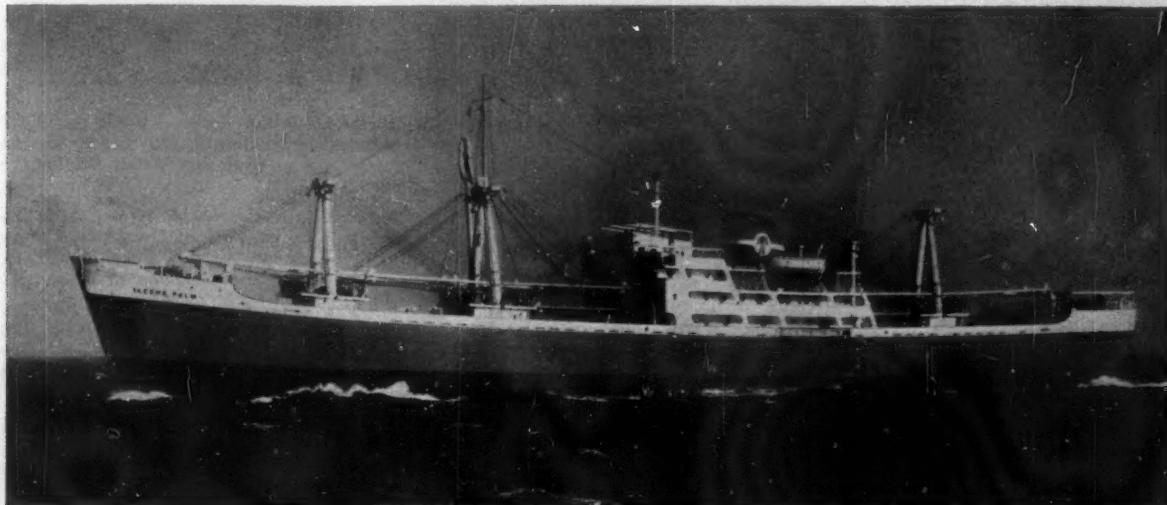
ABOVE: The owners' bedroom

BETWEEN: The smoking room



machinery is electrically driven, power being supplied by three 250-kW generators driven by Crossley diesel engines.

An all-electric steering gear has been fitted which works on the single Ward-Leonard principle, controlled from the bridge by a combined Sperry-Donkin steering pedestal and with a local control in the steering compartment.



Oil Topics

TANKER RATES IN NOVEMBER

ALTHOUGH more fixtures were reported during November than during the preceding month, rates in virtually all sections of the market showed a weaker tendency. In their report on the tanker market during the month, Davies & Newman Ltd state that this was due to the very large numbers of tankers available in early loading positions, and to the fact that only one British major company had anything like a steady requirement throughout the month. The majority of the single-voyage black oil fixtures reported continued to be for Persian Gulf loading, and more than a dozen vessels were taken by Japanese charterers, the rates ranging in the main from U.S.M.C. minus 70 to 73 per cent for larger sizes, and minus 65 to 67½ per cent for medium-size tonnage. The demand in this latter market has been reduced by the import cuts referred to previously. One American major took several vessels for Persian Gulf to Far East voyages, principally at Scale minus 55 per cent, although their last fixture was that of a T2 at Scale minus 45 per cent for second-half December loading. Demand for Persian Gulf/U.K.-Continent-Mediterranean tonnage was largely for account of one major company, who had little difficulty in covering the bulk of its requirements at Scale minus 57½ per cent. American charterers took an occasional ship from Persian Gulf to U.S.N.H. at U.S.M.C. minus 70/72½ per cent. The demand for clean tonnage continued on a very limited scale, and the few trans-Atlantic fixtures reported were at rates ranging from Scale minus 25 per cent to minus 32½ per cent.

Time Chartering Quiet

THE PERIOD SECTION of the market was also rather quiet, although several short-term fixtures of medium-sized vessels were reported. The most interesting of these was the fixture of a Norwegian 17,400-tons deadweight vessel for 12/18 months clean trading at 14s 10½, with February commencement. In addition, a few tankers were fixed for 12/18 months grain trading at rates between 14s 3d and 16s, although a 26,000-tons turbine-tanker accepted \$1.75. Details were also released of a 45,000-tonner fixed a short time ago for five years to a London major company. There was also a reduction in demand for foreign-flag tonnage in the American coasting trade, with a consequent fall in rates. At the beginning of the month, medium sized tonnage was being fixed at A.T.R.S. minus 42½/45 per cent, but latterly this rate had fallen to around A.T.R.S. minus 52½ per cent. There has been a further slight reduction in the laid-up total, this now being 164 vessels of about 2,666,000-tons dwt, a reduction of eight ships and about 141,000-tons dwt during the month.

Kent Refinery Oil Traffic

THE BP Kent Refinery on the Isle of Grain has handled a combined total of 100 mn tons of crude oil and products since it started operations in 1953. In 8½ years up to the end of last month, a total of nearly 53 mn tons of crude oil has been discharged at the refinery's jetties by 2,700 large tankers. In the same period some 43 mn tons of products have been delivered over the jetties into ocean-going and coastal tankers, and barges, while more than 12,000 ships have berthed to take on bunkers. Most of the refined products made at Kent Refinery leave by water, but there is also considerable road and rail traffic. Since 1953 there have been 134,000 road tanker and 25,000 rail tanker loadings. The construction of Kent Refinery, which is the largest wholly-owned refinery in

the BP Group, started in 1950 and it was commissioned in 1953. Since then the refinery has been steadily developed and it can now process 9.5 mn tons of crude oil a year. Including the third catalytic reforming unit which is due to be commissioned early in 1962, the total cost to date of constructing the refinery and its oil port is about £88 mn.

RECENT SHIP SALES

CARGO steamer *Afros* (ex-*Libreville*, ex-*Vadso*, launched as *Robert J. Banks*, 10,494 dwt, 7,198 grt, 4,365 nrt, built Brunswick, Ga., 1944 by J. A. Jones Construction Co) sold by Rio Valioso Compania Naviera S.A., Panama, to other Panamanian buyers for £145,000 including some credit.

Motor vessel *Mary Robert Muller* (2,424 dwt, 1,598 grt, 1,002 nrt, built Hamburg 1953 by Ottensener Eisenwerke) sold by Partenreed, m.s. *Mary Robert Muller* (Rob. Muller), Hamburg, to Egon Oldendorff, Lubeck, and to be renamed *Grete Oldendorff* after fairly prompt delivery.

Cargo steamer *Hansestadt Lubeck* (ex-*J. C. Ertel*, ex-*Hernia*, ex-*Markelo*, ex-*Eva*, 1,045 dwt, 819 grt, 373 nrt, built Rotterdam 1917 by Burgerhout's Schps. Masch.) sold by Poljoreederei Pohl & Jozwiak, Hamburg, to Greek buyers with delivery December.

Tank steamer *Opobo Palm* (ex-*Congonian*, 8,900 dwt, 6,084 grt, 3,417 nrt, built 1942 by Swan Hunter & Wigham Richardson) sold by Palm Line Ltd to Hong Kong buyers reported to be the Windward Shipping Company.

Motor vessel *Arica* (13,594 dwt, 9,999 grt, 5,765 nrt, built 1957 by Chantiers de la Mediterranée) sold by Skibs A/S Viator (C. H. Sorensen & Sonner) to other Norwegian buyers for £770,000 with delivery March and to be renamed *Utvik*.

Motor vessel *Arthur Stove* (13,589 dwt, 9,999 grt, 5,765 nrt, built 1957 by Chantiers de la Mediterranée) sold by Lorentzens Rederi Co A/S for £785,000 to other Norwegian buyers. She passed survey in 1961.

Motor vessel *Heathmore* (ex-*Hickory Mount*, 5,938 dwt, 3,825 grt, 2,096 nrt, built Wilmington, Cal., 1945 by the Consolidated Steel Corp.) sold by Johnston Warren Lines Ltd to the Cia. Mar. Med Ltda, Costa Rica, and renamed *Grecian Med* under the Lebanese flag.

Motor vessel *Templar* (10,375 dwt, 6,749 grt, 4,047 nrt, built Kiel 1929 by Deutsche Werke AG, new engines 1953) sold by Wilh. Wilhelmsen to Greek buyers for £156,500 with mid-December delivery Continent.

Motor tanker *Marli* (16,731 dwt, 11,505 grt, 6,677 nrt, built 1953 by Deutsche Werft) sold by A/S Mosvold Shipping Co to other Norwegian buyers for £275,000 charter free. The ship had originally been fixed to BP until June 1963 at 27s 6d per dwt.

Motor tanker *Tank Princess* (13,550 dwt, 8,954 grt, 4,983 nrt, built 1951 by A/S Fredrikstad M.V.) sold by Skibs A/S Cecil (Sigurd Herlofson & Co A/S) to foreign buyers for £240,000.

Motor tanker *Anella* (ex-*British Purpose*, 5,801 grt, 3,028 nrt, built 1943 by Furness Shipbuilding Co Ltd) sold by Sameiet Anella (Arne Blystad), Oslo, to Eisen und Metall AG for £15 per ton light displacement.

Cargo steamer *Michael A.* (ex-*Corglen*, 4,310 dwt, 2,666 grt, 1,672 nrt, built Blyth 1929 by the Cowpen Dry Dock & Shipbuilding Co Ltd) sold by the St Michaels Corp., Monrovia, to Greek buyers and to be renamed *Capetan Andreas*.

Cargo steamer *Pandelis A.* (ex-*Eduard Rusche*, ex-*Friedrich S. Muller*, ex-*Rota*, 1,465 dwt, 996 grt, 537 nrt, built 1930 by Nordseewerke AG sold by A. & Th. Athanasiades other Greek buyers, reported as Petropoulacos & Co, and renamed *Derna*.

Motor coaster *Stella Mary* (ex-*Fenix*, 613 grt, 313 nrt, built Kalmar 1949 by Kalmar Varv), sold by Roadstone Ltd, Dublin, to Chr. M. Sarlis & Co, Piraeus, and renamed *Hona* under Greek flag.



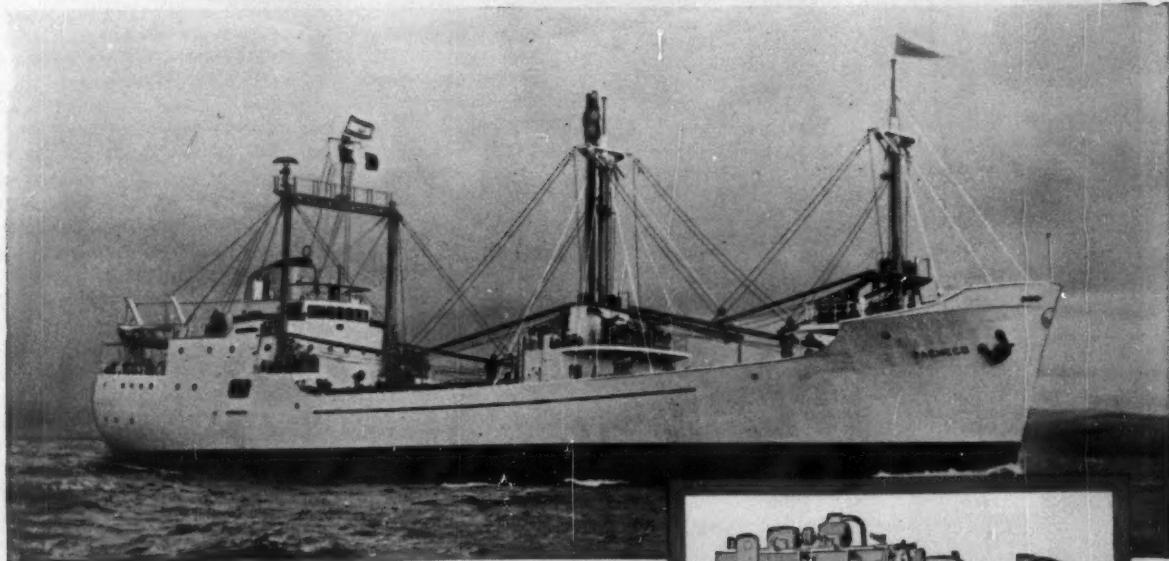
MacAndrews & Co. Ltd

Forward looking shipowners
are
fitting

"BIOGEST"

Complete Sewage Purification and Disposal Equipment

MacAndrews & Co. Ltd. have fitted Biogest
on the new M/S PACHECO, pictured below, which was
built by the Grangemouth Dockyard Co. Ltd.
Biogest will in future be standard equipment
on ships built for MacAndrews & Co. Ltd.

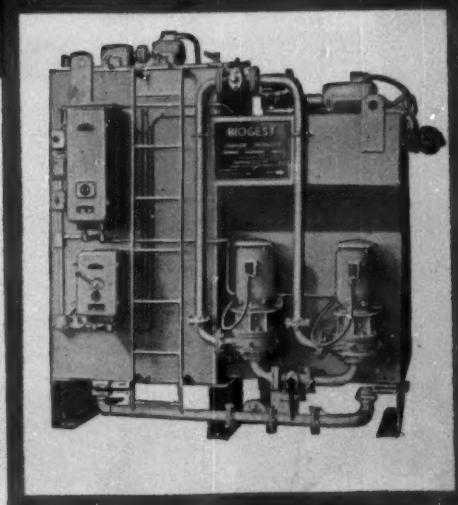


THE BIOGEST ▶

Complete sewage purification and disposal
plant, combines highest efficiency, with
economy in space and running costs.
Fool-proof in operation. Fully automatic.
Minimum maintenance.
Effluent 95-98% pure. Harmless in any waters.

MANUFACTURED BY

G. D. PETERS & CO. (ENGINEERING) LIMITED
Windsor Works, Slough, Bucks, England. Tel: Slough 23201.
(A Member of the G. D. Peters Group)



OVER 60 YEARS' EXPERIENCE BEHIND EVERY COCHRANE-BUILT VESSEL



"EVERTON"
STEAM TRAWLER 184' 6" B.P. Machinery
Amos & Smith 1450 I.H.P.



"ROSS CHEETAH"
TRANSOM STERN DIESEL TRAWLER
127' 6" B.P.
Machinery — 705 H.P. Ruston

COCHRANES

OF SELBY

OUSE SHIPBUILDING YARD · SELBY · ENGLAND

Telephones: 36 & 37 Selby

Telegrams: Cochrane, Selby

TUGS · COASTERS
TRAWLERS
ADMIRALTY CRAFT
UP TO 1,200 D.W.





Portuguese Passenger Liner

NEW SHIP BUILT IN BELGIUM FOR LISBON-AFRICA SERVICE

A NEW passenger liner has been delivered to the Companhia Colonial de Navegacao, Lisbon, from the Belgian shipbuilders S.A. Cockerill-Ougrée, Hoboken. This vessel, the *Infante Dom Henrique*, 24,000 grt, is the largest passenger liner yet built by Cockerill-Ougrée. She is the third passenger liner to be built at Hoboken for her owners, the other two ships being the *Vera Cruz* and *Santa Maria*.

The order for this ship was placed in December 1957; prefabrication began in February 1959 and the keel was laid in April 1960. She was launched on 29 April 1960 and delivered last September. The ship, which has twin screws, is powered by steam turbines giving her a speed of 20 knots. She is being used on the Lisbon-Africa run.

The *Infante Dom Henrique* is the second large passenger liner to be completed for Portuguese ownership this year. A slightly smaller vessel, the *Príncipe Perfeito*, was completed about six months ago by the Neptune Yard of Swan, Hunter & Wigham Richardson Ltd, for another Portuguese shipping company, Companhia Nacional de Navegacao, and is also engaged on the run between Lisbon and Portuguese Africa.

The *Infante Dom Henrique* has been built on attractive lines with the uppermost continuous deck surmounted by a long superstructure extending well over half the length of the ship. Both the sheer and camber of the decks has been kept as low as possible which adds to the comfort of the passengers, as does the fact that the ship is equipped with stabilisers. A considerable amount of top weight

PRINCIPAL PARTICULARS

Length o.a. ...	...	...	...	641ft 5in
Length b.p. ...	...	...	...	587ft 3½in
Breadth moulded ...	...	...	...	80ft 4½in
Depth moulded to freeboard deck	...	...	...	38ft 4¾in
Draught, moulded ...	...	...	...	26ft 6¾in
Gross tonnage ...	...	...	...	24,000 tons
Deadweight ...	...	...	...	10,840 tons
Machinery output	...	...	...	22,000 shp
Service speed	...	...	...	20 knots
Trial speed	...	...	...	21 knots
Passengers:				
De luxe	...	...	...	8
First class	...	...	...	148
Tourist	...	...	...	862

has been saved by using light alloy for the uppermost decks and deckhouses, lifeboats, funnel and mast. (The total amount of aluminium used is 227 tons; 135 for the superstructure, 23 tons for the funnel, 3 tons for the mast, 47 tons for the boats, and 19 tons for the air ducting.)



The tourist-class lounge overlooks the promenade deck. It has a circular dance floor

Four holds, two forward and two abaft the machinery space, with two tweendecks over No 1 hold and an insulated tweendeck over No 2 hold for refrigerated cargo, are provided. The four hatchways are served by a comprehensive arrangement of derricks. The winches for the derricks have been supplied by Clarke, Chapman & Co Ltd. A travelling hoist has been installed on C-deck for handling provisions and luggage. This hoist is electric motor-operated and runs on a horizontal rail which can be extended 10ft outside the ship.

The accommodation has been designed with the object of giving an impression of space, and to attain this use has been made of perspective artwork. Light plastic materials have been widely used for lining and furniture. Swimming pools are provided for first and tourist class passengers and there is plenty of space set apart for children. In the first class lounge, Cinemascope films can be shown. The de luxe passenger accommodation has suites each comprising a hall, sitting room, bedroom and bathroom. These suites can be arranged to form two or three apartments if so desired.

This vessel has been constructed under Method II of the International Convention for the Safety of Life at Sea, 1948, and the British Ministry of Transport interpretation of these regulations has been closely followed. Solastos was extensively used for the fire protection of the A Class bulkheads.

Propelling Machinery

Each of the twin propellers is driven by a two-casing set of geared turbines of the Westinghouse type, constructed by the S.A. Cockerill-Ougrée at Seraing (Belgium). They are designed to utilise steam at an initial pressure of 640 lb/sq in and superheated to a temperature of 833 deg F. The installation, which in normal service develops 22,000 shp at a propeller speed of 130 rpm, has been designed for operation at an overload of 15 per cent for four hours. The LP ahead turbine is of the pure reaction

type while the HP ahead turbine is of the impulse reaction type. Astern power is provided by two impulse type turbines, incorporated in the LP ahead-turbine casings. These astern units can develop a maximum power of not less than 80 per cent of the normal ahead power, i.e. 17,600 shp. Double-reduction gearing is used.

The steam generating plant comprises three Babcock & Wilcox-Cockerill-Ougrée integral furnace boilers with superheaters, horizontal tubular air heaters, and mechanical soot-blowers. Details of these boilers are as follows:

Steam production maximum (for three boilers) ...	105 tons/hour
Steam production in normal service ...	90 tons/hour
Nominal pressure ...	683 lb/sq in
Steam temperature at superheater outlet	833 deg F
Feed water temperature at boiler inlet	356 deg F
Fuel ...	Oil of 18,500 BTU/lb
Heating surface of three boilers	21,591 sq ft
Heating surface of the three superheaters	2,400 sq ft
Heating surface of the three air heaters	20,790 sq ft
Capacity of the three forced draught fans	2,142 cu metres/minute against a manometric height of 503mm water column

Electricity for power is supplied at 380 volts, three-phase, 50 cycles, while a secondary system on 115 volts 50-cycles feeds the lighting mains, galley and some special equipment. The main generating plant comprises three turbo-alternators, each of 1,250 kW, with DC exciter and automatic voltage regulators. There is also a diesel-driven alternator of 650 kW. For emergency purposes there is a 380 volts three-phase 50 cycles supply obtained from a 150-kW diesel generator.

To reduce fire risks, the electrical installation has been split into five main sections, to suit the division of the ship in fire zones. These sections are independent of each other as regards the operation of essential services. This has also been done for the different alarm and signalling systems. The main feed cables run below the accommodation and then through special trunks to five switch rooms above the bulkhead deck, one in each section. These rooms contain the apparatus for the distribution and protection of the ventilation, lighting and domestic services. An emergency distribution panel has been fitted in every section, separate from the switch room.



The first-class lounge above is located on the forward part of A-deck and has large windows looking out on either side of the ship and also forward



The main engine controls. It will be noted that these are located in consoles with the instruments under the operator's eye

Weir "S" Type Deaerator

NEW TRAY AND CASCADE TYPE UNIT IN LINER "FUNCHAL"

To COMBAT the corrosion and pitting in boiler tubes, drums and piping in feed systems that can be caused by dissolved gases in the boiler feed water, G. & J. Weir Ltd, Glasgow, have developed a new deaerator. Known as the "S" type deaerator, it is of the tray and cascade type, is equally suitable for marine or land installations, and may be used both in pressure and vacuum systems. It has been designed to give a guaranteed oxygen content as low as 0.005 cc/litre when operating between 50 per cent full load and full load when the outlet temperature is 240 deg F or higher, with a temperature rise through the deaerator of not less than 50 deg F, and when the oxygen content of the feed water at the inlet does not exceed 0.22 cc/litre. A deaerator of this new design has been fitted on board the Portuguese passenger liner *Funchal*, described in THE SHIPPING WORLD of 15 November 1961.

Locating the Deaerator

The deaerator is normally mounted at the top of a vertical cylindrical storage tank having a capacity sufficient for 10 minutes running supply of water; but the tank arrangement can be varied to suit particular circumstances, e.g. for large capacity land installations the horizontal arrangement is usually preferred, so that two or more deaerator headers may be mounted on the same tank. Where expelled vapour cannot be exhausted to atmosphere or led to a suitable heat exchanger in the system, such as a glands condenser, it is necessary to include a devaporiser. In vacuum systems an air ejector is also included. Additional fittings such as make-up and overflow valves can be supplied when necessary.

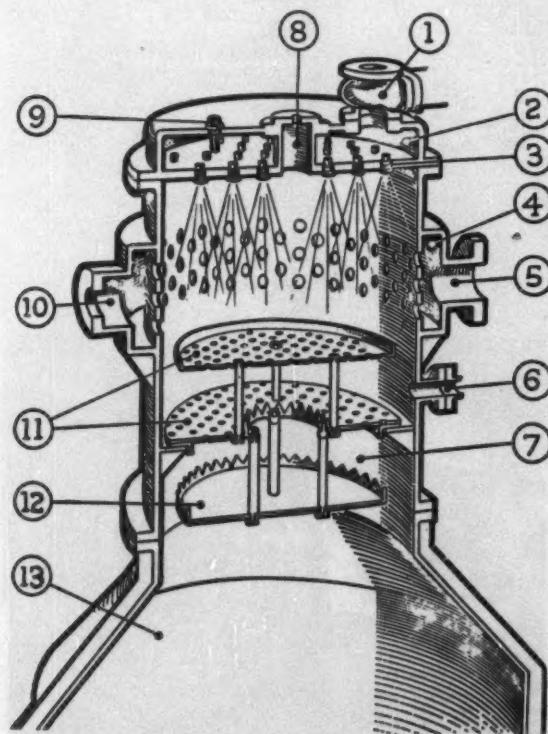
Cold untreated water enters at the water inlet valve (1) at the top of the header after having passed through the devaporiser, where fitted, where its temperature has been raised a few degrees in condensing the vapour from the air/vapour mixture. In vacuum installations the air/vapour mixture is drawn from the top of the deaerator by an air ejector through a devaporiser. In pressure systems the air outlet from the deaerator can be led to the glands condenser. The untreated water then passes into the header (2), through the spray nozzles (3) and then into the deaerator.

The deaerator shell is surrounded by a broad steam jacket (4), the heating steam entering it through a valve at (5), and passing through holes in the deaerator shell. The steam then meets the water spray from the nozzles, heating it instantly. This heating combined with the breaking up of the feed water into minute droplets by the spraying action, liberates the non-condensables in the water. These non-condensable gases pass upwards through the descending water spray, becoming progressively colder before being drawn via the outlet pipe (8) to the air ejector and thence to the devaporiser or alternative unit; they are then discharged to atmosphere.

The heated and deaerated water falls down the deaerator shell on to the perforated trays (11), and through the perforations, liberating any remaining non-condensables and on to the lower tray (12). The lower tray is not perforated, but has an upturned serrated edge which assists the steady flow of water spilling over into the storage tank (13). The deaerated water is drawn off from the base of the storage tank and delivered to the suction branch of the boiler feed pump.

STANDARD SIZES

p.p.h.	Capacity	Shell inside dia	
		Ft	mm
up to 50,000	22,680	2.0	679
50,000—125,000	22,680—56,700	2.5	762
125,000—175,000	56,700—79,380	3.0	914
175,000—225,000	79,380—102,060	3.5	1,067
225,000—325,000	102,060—147,420	4.0	1,219



Sketch showing details of the new Weir "S" type deaerator

THE DEATH recently on a liner of a 15 months old child who fell out of her cot underlines the need for all concerned with the buying of children's cots to insist that they comply with British Standard requirements. Cots made to British Standards have sides which are high enough to prevent children falling out of them (24 inches from wire mattress to top of cot). Additionally, British Standard cots have bars so spaced (2½ to 3 in) that children are unlikely to get jammed between them; they have safe fastenings which prevent children unfastening and lowering the drop-side; and the finish of the woodwork is non-poisonous.

REORGANISATION and re-equipment of the hot forging department of Cooper & Turner's Vulcan Works at Sheffield has recently been completed to give greater flexibility in meeting demands for rivets in the size range $\frac{1}{2}$ to $1\frac{1}{2}$ -in diameter. The results of changing from coal to oil fired operation have included a 60 per cent increase per rivet forming machine, a greater degree of temperature control and a considerable improvement in working conditions. The higher throughput enables greater flexibility of operation and allows the simultaneous production of a greater range of sizes and shapes of rivet. It also enables batch production of any quantity, however small, to be undertaken while normal production of large orders is in progress.



THE OIL TANKER *Solen*, which was delivered last month from the Wallsend shipyard of Swan, Hunter & Wigham Richardson Ltd to Shell Tankers Ltd, is the second of the two British-flag ships in this class of three 65,000-dwt tankers. The third vessel, the *Sepia*, flies the Dutch flag. The first of the class, the *Serenia*, was described in THE SHIPPING WORLD of 26 July 1961.

Externally, the *Solen* resembles the *Serenia*. She is painted in the new Shell colours, with a French grey hull and decks of Brunswick green. Internally there are varia-



ABOVE : The main staircase to the bridge

BETWEEN : The crew's messroom

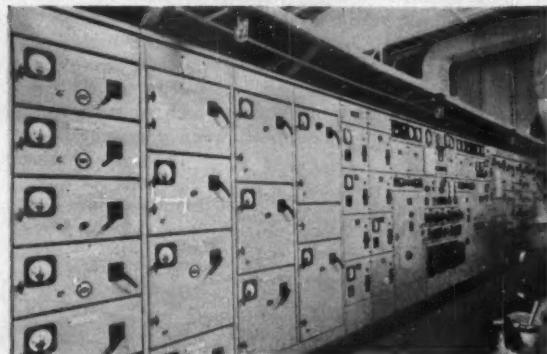


Shell Tanker "Solen"

SWAN, HUNTER-BUILT VESSEL
OF NEW 65,000-TONS CLASS

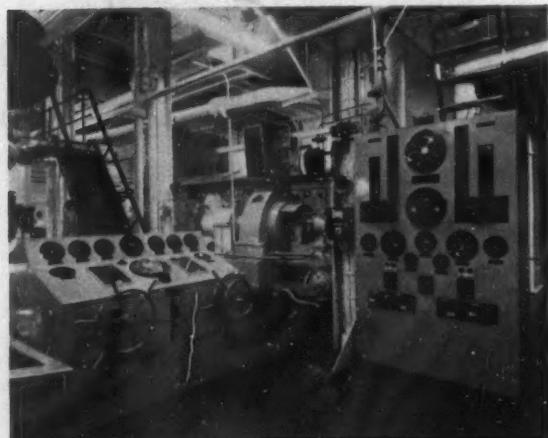
tions in the decor, and the forked main stairway in the officers' quarters in the *Solen* is an attractive variant on that in the *Serenia*. The contract for the *Solen* was worth almost £4 million: the ship was delivered on time.

In accordance with normal Shell practice the hull is all-welded, with notch-tough strakes fitted in accordance with Lloyd's Register requirements. The shell plating was shot-blasted, and was painted below the waterline with International Paints' phenolic underwater sealing paint, and above it with W. & J. Leigh's Epigrip.



ABOVE : The main switchboard, with grouped starter panels at either end

BETWEEN : The main engine control position, with the automatic boiler control panel on the right



PALaeocene
54,000,000 years
before man

Cretaceous
120,000,000 years
before man

Jurassic
185,000,000 years
before man

Triassic
215,000,000 years
before man

Permian
255,000,000 years
before man

CARBONIFEROUS
300,000,000 years
before man

DEVONIAN
315,000,000 years
before man

SILURIAN
400,000,000 years
before man

ORDOVICIAN
450,000,000 years
before man

CAMBRIAN
550,000,000 years
before man

Mastodonsaurus the stegocephalian, with a skull three and a half feet long, was the largest of the world's amphibians, a creature of the Carboniferous swamps that existed between 215 and 300 million years ago.

Long before man came it lived out its life in the still waters where in the bottom silt the world's future oil supplies were already germinating. BP today draws millions of barrels annually from the Carboniferous levels in the Middle East and the English Midlands.

Some of the world's finest crude oils are those from the BP wells. From them BP laboratories and refineries have produced the BP Energol range of marine lubricants now long proven in service with major shipping companies. Covering every requirement of modern marine engineering BP Energol Marine Lubricants are supported at home and abroad by full technical and supply services.

eye witness



MARINE LUBRICANTS

Marketed in Great Britain by THE POWER PETROLEUM CO. LTD. 76-86 STRAND LONDON W.C.2



CABLE SHIP CARRIES DECORPLAST TOO

HARD WEARING SURFACES THAT ARE A.1 FOR SHIPPING

Modern surfaces for an ultra-modern ship: Decorplast is so right for Cable and Wireless Limited's new cable ship 'Retriever'—built by Cammell Laird & Co. Ltd. It gives her crew's accommodation an appearance as stylish as the lines of her hull. Decorplast

surfaces are British-made. Cheerfully patterned, yet tough enough for the harshest treatment, they're easy to maintain . . . reliable in all extremes of temperature . . . undoubtedly one of the most serviceable materials available to the shipping industry.

DECORPLAST

LAMINATED PLASTIC



MARINE DEPARTMENT, 2 CAXTON STREET, LONDON, S.W.1 · TEL: ABBEY 4866

Steam-Assisted Oil Burner

NEW WALLSEND PRESSURE-JET DEVELOPMENT

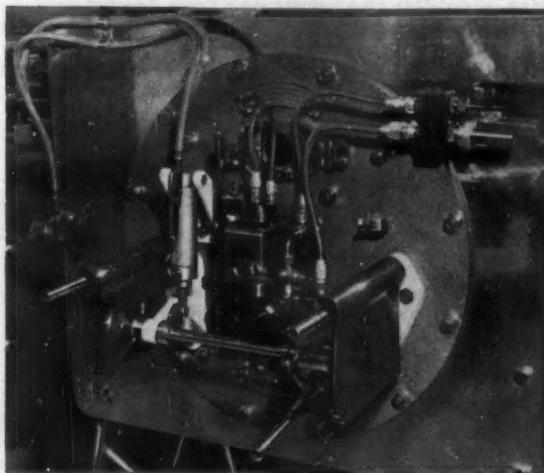
A STEAM-ASSISTED pressure-jet oil burner has been developed by the Wallsend Slipway & Engineering Co Ltd; one of the companies within the Swan, Hunter & Wigham Richardson Group. Known as the Wallsend steam-assisted pressure-jet, this new oil burner has already been fitted to the boilers of three Shell tankers, the *Serenia* (described in THE SHIPPING WORLD of 26 July 1961), *Sepia* and *Solen*. It is understood that during the four months that the *Serenia* has been in service the practical results obtained from the new burners have exceeded all expectations.

The main advantages of the steam-assisted pressure jet-burner are its ability to operate over a much wider range of output than the conventional pressure jet burner, and its adaptability to automatic combustion control. The new burner has been designed by the Oil Burning Department of the Wallsend Slipway, where they have a very modern research station. Considerable interest attaches to this new equipment, and orders have been received from Shell Tankers for sets of burners for three tankers of 48,500 dwt. The *Northern Star* will also have Wallsend steam-assisted burners.

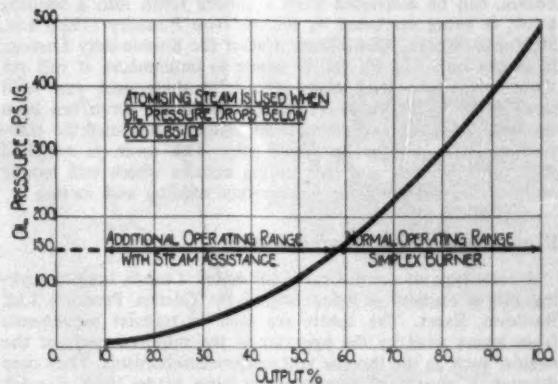
High Turn-Down

With the simple pressure jet burner the turndown is limited since throughput of oil varies as the square root of the oil pressure. Furthermore, it is not usual to drop the oil pressure below 150 lb/sq in as the spray particle is then too large for good combustion; and the turndown is limited to 1.7:1 if the operating pressures are between 450 lb/sq in and 150 lb/sq in. However, if the oil pressure can be lowered to 4.5 lb/sq in, then on the basis of the square law rule the turndown can be as much as 10:1. The use of steam helps to break up the oil into fine particles, and enables a wide range of outputs to be obtained at a very low pressure.

The burners are so designed that they may be used up to their maximum output, with or without steam atomising, without changing the burner gun or nozzle. If it is required to use steam it is only necessary to open the master steam supply valve, leaving the burner in operation the whole time.



Wallsend pressure-jet oil burner. An air-operated cylinder is fitted for giving on/off control



Operating range with steam-assisted pressure-jet oil burner

The accompanying illustration shows a Wallsend burner of the new design, with an additional air-operated cylinder for on/off control. The usual number of safety devices now commonly required is incorporated in the registers to reduce the risks of fire and explosion. A steam purge is fitted which will discharge any oil remaining in the burner gun prior to shut-down and subsequent removal.

Should the boiler demand be less than the turn-down ratio of the burners it may be necessary to shut down one burner. In this case the air supply is shut off thus closing the fuel supply, and steam atomisation alone functions and also acts as a coolant for the burner gun tip.

Due to the very low steam flow requirements, owners have elected to maintain steam atomising when on "full away" as well as for manoeuvring conditions. Indications in services are that these burners may be left in the boiler for long periods without any deterioration in performance. The problem of controlling the air supply for wide range burners has been simplified because there is single oil and air-flow characteristics for most of the range. The air director is of the suspended-flame type with the great asset of having inherent flame stability at extremely low register draught losses.

This inherent flame stability is a great advantage when air/fuel ratios may be changing rapidly owing to the difficulty that may occur when automatic combustion control equipment has to follow rapid changes of load. This can be aggravated by it becoming necessary to shut down one or more burners under extreme conditions, with the subsequent requirement of different control characteristics. The simplified combustion control system is so arranged that hand trimming can be applied to make any adjustments necessary should there be any alterations in operating conditions.

WHEN the Union-Castle liner *Transvaal Castle* enters service in January the *Edinburgh Castle* and *Pretoria Castle* will be temporarily withdrawn for refits. The *Pretoria Castle* will be out of commission from January 5 to March 8, and the *Edinburgh Castle* from March 30 to June 7, the work being undertaken by Harland & Wolff Ltd at Southampton. To maintain the weekly sailings, the *Carnarvon Castle* will continue on the South African service until her arrival at Southampton on June 1, after which she will be withdrawn from the route after nearly 36 years' service.

RECENT TECHNICAL DEVELOPMENTS

Combined Cutting and Welding Torch

A NEW type of blowpipe which, by a simple change of nozzle, can be converted from a cutting torch into a welding torch, is being marketed by Suffolk Iron Foundry (1920) Ltd, Sibbron Works, Stowmarket. Called the double-duty Demon, it weighs only $1\frac{1}{4}$ lb, and is simple to manipulate. It will cut sheet metal and steel plate up to 2in thick, and can weld steel up to $\frac{3}{8}$ -in thickness. The handle to the torch has been specially designed and constructed being of non-metallic composition with a non-slip fluted grip. The torch is supplied with three welding and two cutting nozzles which will handle most of the requirements of everyday welding and cutting.

Plastic Sheathed Control Cable

A NEW type of control cable for which a much longer working life is claimed is being offered by Teleflex Products Ltd, Basildon, Essex. The cables are used to transfer movements from levers used by the operator to the required parts of the engine, such as the throttle and mixture mechanisms. They pass through a sheath of small bore tubing made from Rigidex high density polyethylene which, because of its smooth inner surface, allows complete freedom of movement of the cable inside. This advantage, combined with high resistance of this material to all forms of deterioration, ensures a long trouble-free working life. Although the small bore sheath has a satisfactory degree of flexibility, it retains its true circular section and does not impede movement of the inner cable even when loops and bends are necessary during installation of the cable assembly. Rigidex high density polyethylene is impervious to moisture, resistant to oil and will not rot even under constantly wet conditions. It has a higher working temperature than conventional polyethylene and may be installed closer to the engine. Small bore tubing in Rigidex is extruded by Unitubes Ltd, Slough, for Teleflex Ltd.

Metal Spraying Pistol

FOR spraying zinc or aluminium coating on to cleaned metal surfaces, a pistol has been developed by the Coating Division of F. W. Berk & Co Ltd, Brent Crescent, North Circular Road, London NW10. This pistol, known as Model 61, has an hourly throughput of 110 lb of zinc at a deposition efficiency previously only achieved with low throughput guns: this throughput enables an area of about 450 sq ft to be given an 0.004in -thick zinc coating at a cost, including oxygen, propane, powder and labour, of about 4d per sq ft. The throughput is achieved by splitting the powder stream into four equal small streams and alternating these with gas streams. The gun weighs only 3 lb, which is less than any other heavy duty gun, and the gas, air and powder hoses all enter at the rear, thus giving good balance.



Berk Model 61 metal spraying pistol. This pistol has a throughput of 110 lb of zinc an hour

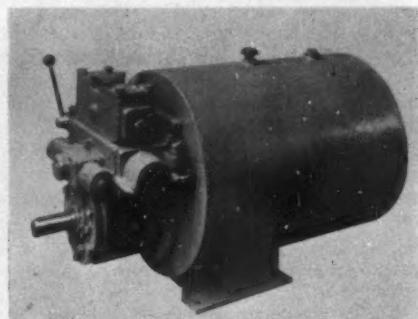
Lightweight Sprayed Limpet Asbestos for Aluminium

A NEW lightweight grade of sprayed Limpet asbestos for the protection of ships' aluminium structures against fire, and which is also suitable for the fire-protection of steel, has been announced by J. W. Roberts Ltd, Horwich, Bolton. The new lightweight sprayed Limpet asbestos results from continuous research and development of the Limpet process carried out in J. W. Roberts' own laboratories. It is applied in varying thicknesses from $\frac{1}{8}$ in to $1\frac{1}{4}$ in, dependent on the structure requiring protection at a density of between 7 and 8.5 lb/cu ft.

The new grade will be of considerable value to shipbuilders in providing much lighter superstructures, and due to the ease and speed of application it should also reduce costs. It has been accepted by the Ministry of Transport and a certificate granted which confirms its acceptance and suitability as complying with the requirements of the International Convention for the Safety of Life at Sea, for use in British passenger ships for the construction of Class 'A' fire-resisting divisions.

Electro-Hydraulic Drive for Steering Gear

THE licence to manufacture Telesig remote-controlled electro-hydraulic drives for steering gear has been obtained from SIG Ltd, Switzerland, by Telehoist Ltd, Cheltenham. These units operate in conjunction with rudder actuators of the hydraulic ram or vane motor type, and have been designed to direct the required hydraulic supply to the actuator for a given telemotor signal. To meet classification society require-



ments, two complete Hydroblocks are normally supplied. If, however, the telemotor stand and steering gear can be directly coupled, for emergency operation, one unit is adequate. Two sizes of Hydroblock are available giving a 55 gal/min or 120 gal/min output. Each unit is self-contained and comprises a cartridge type screw pump, pilot-operated pressure regulator, selector valve, brake valve and hand lever control device. The pumps are constant speed, fixed delivery, screw types. The control valve on each is of the slide type, arranged to direct the oil supply to rudder actuator, to bring about the required rudder movement.

Thermotank Electronic Air Purifiers

A RANGE of electronic air purifiers based on the process of negative ionisation has been announced by Thermotank Ltd (Helen Street, Glasgow). Known as Vita-Aire, these air purifiers are produced in the U.K. by Thermotank Ltd by agreement with the Vita-Aire Process Co Inc, U.S.A., and are now available for the first time in Britain. For industrial use, there are at present eight standard-sized generators for areas of up to 200,000 cu ft, which can be either built into suitable casings and fitted with circulating fans, or built into the ducting of existing air conditioning or heating and ventilating systems. In the latter case the generators are suitable for air flows of between 300 and 4,000 cu ft/minute. Larger-sized units can be built to order for cinemas, theatres, departmental stores, factories, ships etc. The units operate on the standard 230-250 volts AC supply, with a low power consumption—the smallest generator, for example, consuming less than an average reading lamp.

S.I.G.M.A.-A.F.O.

FREE FLOW

**SYSTEM OF
CONSTRUCTION
ELIMINATES
MAIN PIPING**

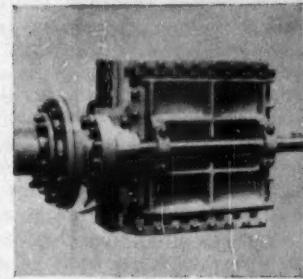
NOTE THESE ADVANTAGES

- NO MAIN PIPING IN TANKS
- * INCREASED OUTPUT OF PUMPS
- * REDUCED MAINTENANCE
- * STRIPPING ALMOST ELIMINATED
- * INCREASED DEADWEIGHT
- * HYDRAULIC REMOTE CONTROL OF VALVES

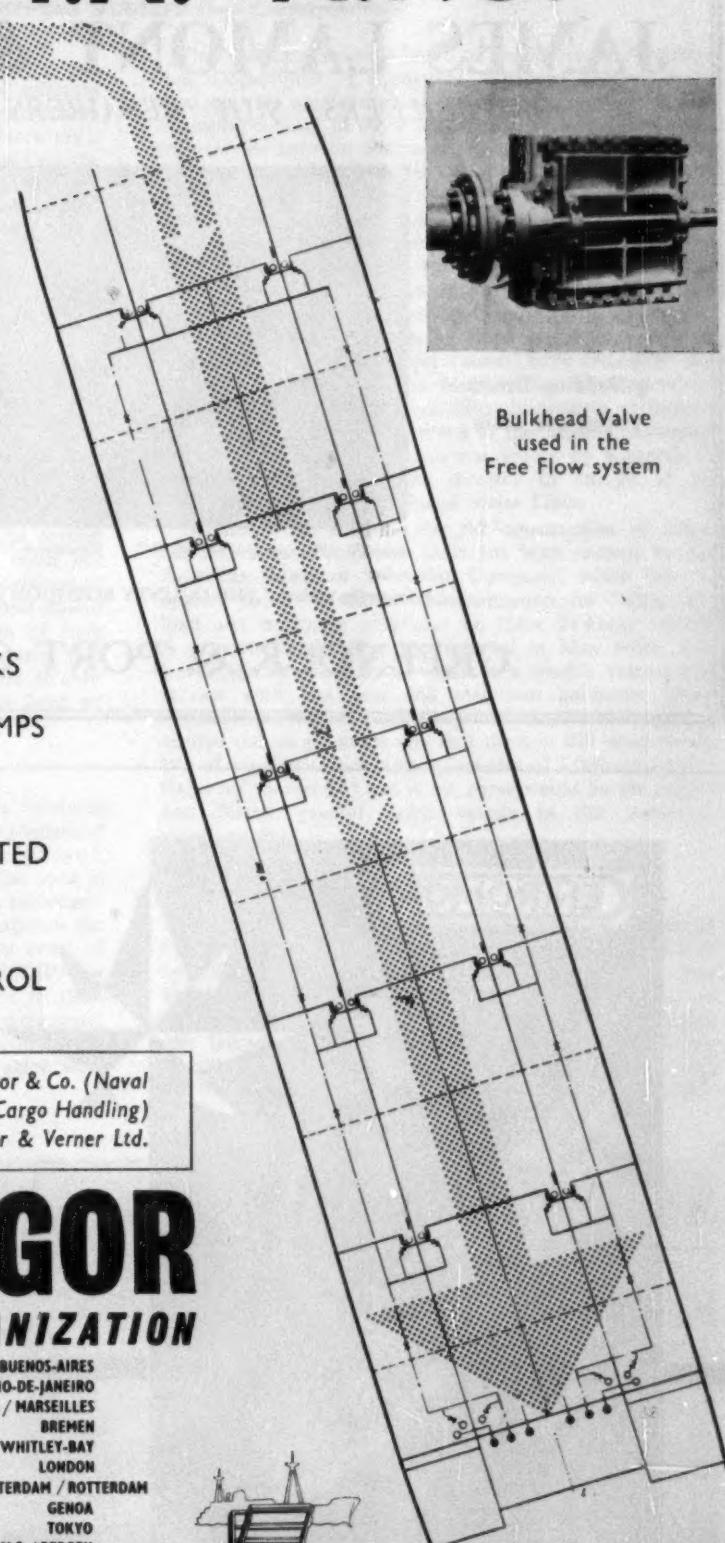
In the U.K. promoted jointly by MacGregor & Co. (Naval Architects) Ltd., and MacGregor & Co. (Cargo Handling) Ltd., in conjunction with Eggar, Forrester & Verner Ltd.

MacGREGOR INTERNATIONAL ORGANIZATION

ARGENTINA	MacGREGOR ARGENTINA S.R.L.	BUENOS-AIRES
BRAZIL	MacGREGOR DO BRASIL S.A.	RIO-DE-JANEIRO
FRANCE	MacGREGOR - COMARAIN S.A.	PARIS / MARSEILLES
GERMANY	DEUTSCHE MacGREGOR G.M.B.H.	BREMEN
GT. BRITAIN	MacGREGOR & Co (NAVAL ARCHITECTS) LTD	WHITLEY-BAY
GT. BRITAIN	MacGREGOR & Co (CARGO HANDLING) LTD	LONDON
HOLLAND	MacGREGOR - COMARAIN - HOLLAND N.V.	AMSTERDAM / ROTTERDAM
ITALY	MacGREGOR - COMARAIN S.A.	GENOA
JAPAN	MacGREGOR FAR EAST LTD	TOKYO
NORWAY	NORSKE MacGREGOR A.S.	OSLO / BERGEN
SPAIN	ELCANO MacGREGOR	MADRID / SEVILLE
SWEDEN	ANKERLOKKEN MacGREGOR AB.	GOTHENBURG
U. S. A. MacGREGOR COMARAIN INC.		NEW-YORK



Bulkhead Valve
used in the
Free Flow system



ESTABLISHED 1870

JAMES LAMONT & CO. LTD.

SHIPBUILDERS, SHIP REPAIRERS and ENGINEERS

SHIPBUILDING

Ships of all types up to 350 ft.

3 Building Berths
Fitting-out Basin



T.S.M.V. "ROYAL DAFFODIL II" Dimensions 159' 6" x 46' x 13' 4"

SHIP REPAIRING

Ships of all types and sizes

2 Dry Docks
2 Slipways

Built to the order of THE COUNTY BOROUGH OF WALLASEY

GREENOCK & PORT GLASGOW



OFFER :

Tankers up to 35,000 TDW
Cargo Ships
Fishing Vessels
Coastal, harbour and river navigation craft
Machinery & Ships Equipment
Sailing & Motor Boats

ACCEPT ORDERS FOR :

Ship Repairs
Marine Radio Service
Ship Salvage & Towing all over the world

CENTROMOR

Sole Representatives of the Polish Shipbuilding Industry

Head Office : WARSZAWA, Poland, 49 Mokotowska Street
Phone : 8-15-85
Telex : No. 10 224 Cemor Wa
Cables : CENTROMOR, Warszawa

Branch Office GDANSK, 31 Jana z Kolna Street
Phone : 3-29-13
Telex : No. 27 233 Cemor Gd.
Cables : CENTROMOR, Gdańsk

SZCZECIN, 1 Huta Street
Phone : 3-70-29
Cables : CENTROMOR, Szczecin

NEWS FROM OVERSEAS

From THE SHIPPING WORLD'S Own Correspondents

Greek Views on Oil Pollution

A CONFERENCE to consider the revision of the oil pollution convention, which was drawn up in 1954 and finally came into force in 1958, is to be held in London in March 1962. Among the Governments which have never ratified the convention is that of Greece, and in view of the rapid growth of the Greek merchant fleet through transfers from flags of convenience, this is a matter of some importance to the prospects for oil-free seas. Greek official views on the conditions necessary for Greece to ratify the convention when it is revised are given in the current issue of the news summary put out by the Greek Ministry of Mercantile Marine.

The Greek coasts suffer from oil pollution, and the country has a direct incentive to contribute to its removal. However, because of the considerable expense of equipping existing vessels and doubts which are expressed in the summary as to the efficiency of existing designs of separator, it is suggested that this requirement should apply only to new construction vessels. It is also suggested that the list of prohibited areas should be revised to include the Greek seas, and probably all other sea areas within 100 miles of land. Finally, the provisions of the present convention with regard to port facilities should be supplemented so as to make the provision of such facilities practicable. The proposal is put forward that these facilities should not be financed by the firm or even the country concerned, but by an international fund set up specifically for the purpose.

American Shipping Notes

THREE major container ship programmes, two involving the combination of passenger carrying with containerised cargo transport, have figured prominently in recent news. The Bethlehem Steel Company's Sparrows Point yard is the apparent low bidder for one combination passenger-container ship for the Grace Line's service between the east coast of the North America and the west coast of South America. The Bethlehem bid was \$17,957,000 for the 545ft, 20-knots ship, which will be a sister to three already under construction for Grace at the same yard. Of 14,100 tons gross, each will carry 147 containers and 88 passengers. Contracts for the three earlier ships were let in February 1960.

NEW SWEDISH FRUIT SHIP

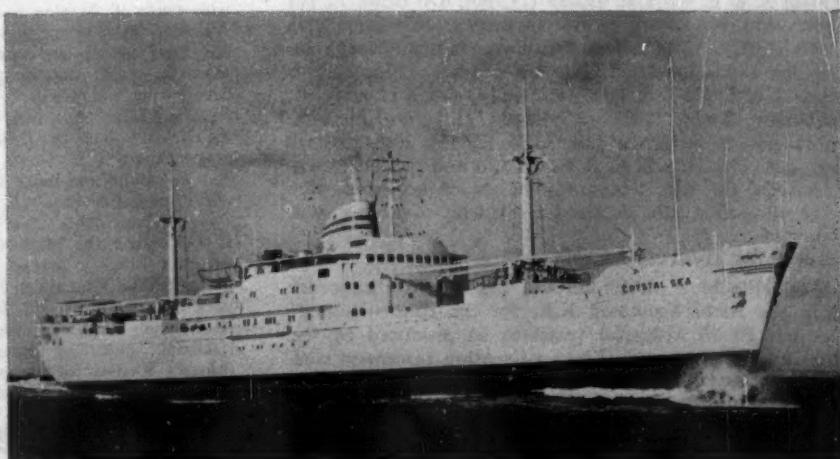
The last of three fruit carriers ordered by Trelleborgs Angfartygs A/B from Kockums Mekaniska Verkstads A/B, Malmö, Sweden, the "Crystal Sea", has been delivered. The ship has a gross tonnage of 6,425 tons, a deadweight of 6,350 tons and has a banana capacity of 274,860 cu ft. The cargo space is divided into 14 rooms forming eight insulated compartments which can all be cooled down to -4 deg F under tropical conditions. The principal dimensions are length o.a. 445ft 1in, length b.p. 412ft 10in, breadth 58ft, depth to upper deck 36ft and draught 25ft 3in. The main engine is an eight-cylinder Kockum-M.A.N. diesel developing 6,960 bhp at 125 rpm.

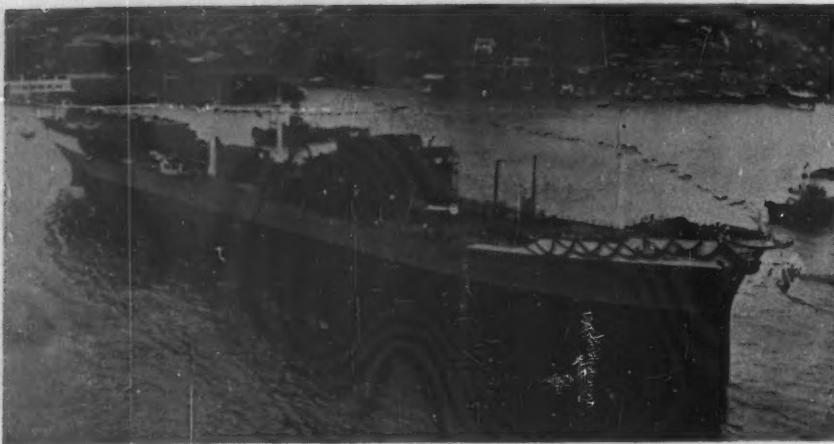
The Maritime Subsidy Board of the Maritime Administration, Department of Commerce, has been holding hearings on the application of Atlantic Express Lines for operating subsidy to cover a proposed passenger-container ship service between Baltimore, Philadelphia and Western Europe. The ships proposed would be of the roll-on roll-off type rather than the lift-on lift-off container ship here favoured by American commercial operators. The American Express Lines' case was in effect supported by Major General Frank S. Besson, Chief of Transportation, U.S. Army, who testified that the military requirements of the nation called for increased roll-on roll-off capacity—the only American oceangoing ships of the type now in service being the *Comet* and *Taurus*, both owned by the Navy and operated by the Military Sea Transportation Service. The General did not officially endorse or oppose the specific application involved in the hearing, however. Strong opposition to the plan was voiced by Kenneth F. Gautier, vice-president and director in charge of all passenger operations of United States Lines.

An ambitious proposal for the construction of large, fast intercoastal container ships has been revived by the American-Hawaiian Steamship Company, which has re-applied to the Maritime Administration for "Title XI" loan and mortgage insurance on three 24-knots vessels. A previous application was rejected in May when Sea-Land Service proposed to operate a weekly intercoastal service with less fast and elaborate container ships. American-Hawaiian contends that Sea-Land has not carried out its promises and that there is still need for its trio of big ships, each with a capacity of 1,000 containers. Expected to cost \$63 mn in all, these would be the largest and fastest general cargo vessels in the American merchant fleet.

Largest French-built Tanker

WORK has begun at Dunkirk, at the yard of Ateliers et Chantiers de France-Gironde, on the largest tanker yet to be built in France. This is a vessel of 79,450 dwt ordered by the Liberian company Tidemar, which is owned by the oil magnate Mr Paul Getty. The new ship was originally intended to be a sister ship of the *J. Paul Getty*, 73,800 dwt, but the design was changed by lengthening the hull by 40ft, thus putting up the deadweight by 5,650





JAPANESE TANKER WITH NEW ENGINE

The 48,200-dwt tanker "Seiwa Maru", which has been launched, will be the first vessel to be powered by the 850mm cylinder bore version of the Mitsubishi UEC diesel engine. The tanker, which is building at the Mitsubishi Nagasaki yard, will have a nine-cylinder engine developing 18,000 bhp maximum output at 120 rpm. The service output will be 16,500 bhp. The "Seiwa Maru" has been ordered by Taiheyo Kaiun K. K., and is due for completion at the end of January

tons. The second ship will resemble the *J. Paul Getty* in being fitted with stabilisers, and in having a service speed of 16.5 knots. She will be a steamship, with Foster-Wheeler boilers and Parsons steam turbines developing 22,000 shp in service. The overall length of the ship will be 884ft 4in, and her displacement at full load 105,000 tons.

Japanese Shipping and Shipbuilding Results

THE FOLLOWING profits before depreciation are shown in statements of accounts by the respective shipping companies for the 6-months business term which ended on 30 September. They are in round figures and in units of one million yen. Figures in brackets are for the previous term. None of the companies is to pay a dividend. Shinnihon Steamship, 677 (458); Mitsubishi Shipping, 627 (707); Yamashita Steamship, 606 (525); Nippon Oil Tanker, 579 (496); Nittetsu Steamship, 500 (319); Hinode Steamship, 219 (121); Toho Kaiun, 206 (173); Nihonkai Steamship, 120 (43). Nitto Shosen Kaisha is reported to be the only major shipping company planning to pay a dividend, which will be of 6 per cent. All other leading companies are to apply their predepreciation profits to depreciation.

In contrast, at least nine leading shipbuilding companies are to pay dividends. Their gross receipts and net profits in round figures and units of one million yen, with figures in brackets for previous term, and dividends are as follows: Mitsubishi S. & E. Co Ltd, 29,728 (28,298), 1,122 (1,285), 12 per cent; Ishikawajima-Harima Heavy Industries Ltd, 30,282 (26,253), 1,827 (1,646), 12 per cent; Mitsui S. & E. Co Ltd, 12,033 (11,700), 870 (922), 12 per cent; Shin Mitsubishi Heavy Industries, 56,985 (53,539), 2,059 (2,075), 12 per cent; Mitsubishi Nippon Heavy Industries Ltd, 23,469 (23,317), 2,004 (1,834), 12 per cent; Kure S. & E. Co Ltd, 4,075 (4,254), 173 (165), 12 per cent; Hakodate Dock, 3,822 (2,560), 34 (14), no dividend; Fujinagata S. & E. Co Ltd, 3,665 (2,655), 206 (204), 10 per cent. The Hitachi S. & E. Co Ltd and Sasebo Heavy Industries Co Ltd, whose statements of accounts were reported earlier, also declared a dividend of 12 per cent.

Orders for Hydrofoil Craft

THE Hitachi S. & E. Co Ltd has received an order from the Aichi Kankosen K.K. for the construction of the first PT-20 hydrofoil vessel to be produced by the company. Hitachi entered into a licensing agreement with Supramar Ltd of Switzerland recently for the manufacture of hydrofoil craft in Japan. The PT-20-type carries 76 passengers. The company said that the contract price was Yen 98 mn and the vessel will be delivered by the

Hitachi Kanagawa shipyard by the end of April 1962. It will be used for a sightseeing-ferry service in the Nagoya, Gamagori-Irakozaki-Toba area. Hitachi also said that other contracts for PT-20 hydrofoils are expected to be signed with Kansai Kisen and Nankai Kisen shortly.

Passenger Liner Conversion

DETAILS have been reported in the French press of conversion work which is to be carried out on another French passenger liner sold abroad. This vessel, the *Lavoisier* of Chargeurs Reunis, is now the *Riviera* of a Genoese company, Riviera Cruises Company, S.p.A. Built by Ateliers & Chantiers de la Loire in 1950, the ship is of 12,000 grt and has a speed of 16 knots. The conversion work, which is to be carried out in Genoa, will have the effect of transforming her from a passenger-and-cargo liner into a pure passenger liner. Cargo capacity will be much reduced, and that which remains largely allocated to passengers' vehicles. Single, double and triple cabins will have a total of 400 main beds, with one Pullman berth in each cabin raising the maximum number of berths to 600. (At present she can accommodate about 425.) Air conditioning is being fitted throughout the ship. The ship will normally maintain a weekly service round the ports of the Western Mediterranean basin, but will also engage in cruising.

WORKING GROUP ON NUCLEAR RESEARCH

FOLLOWING the Government's decision to authorise a "vigorous programme of research" aimed at the development of a reactor system which would be economically attractive to a wide range of shipping, to be carried out by the Atomic Energy Authority in conjunction with industry, a small working group has been set up to consider what the new programme of research should contain, and to keep progress under review. The group, which will be known as the Working Group on Marine Reactor Research, is responsible jointly to the Minister for Science and the Minister of Transport. Its terms of reference are:—

To advise and make recommendations on the programme of research required to advance nuclear propulsion for merchant ships.

It will advise the Ministers concerned as occasion arises: it will not make a formal report. The chairman of the new group is the Permanent Secretary to the Ministry of Transport. Its members are Sir William Cook (Atomic Energy Authority), Sir Victor Shephard (B.S.R.A.), Mr A. Logan (General Council of British Shipping), Mr H. N. Pemberton (Lloyd's Register of Shipping), and Professor J. Diamond of Manchester University, together with representatives of the Admiralty, the Office of the Minister for Science, and the Ministry of Transport. The group had its first meeting on November 28.



Armstrong

Armstrong Cork Company Limited, the originators and manufacturers of the ships decking compositions now known as ARANBEE, announce that their long association with Rowan and Boden Limited, will come to an end on 31st December, 1961, in accordance with the agreement between them.

From 1st January, 1962, Armstrong Cork Company Limited will manufacture and sell these decking compositions under the registered trade name of "ACCODEK" and their Marine Agents for the United Kingdom will be Durastic Limited.

ARMSTRONG CORK COMPANY LIMITED, KINGSBURY, LONDON N.W.9

Telephone: Colindale 7080



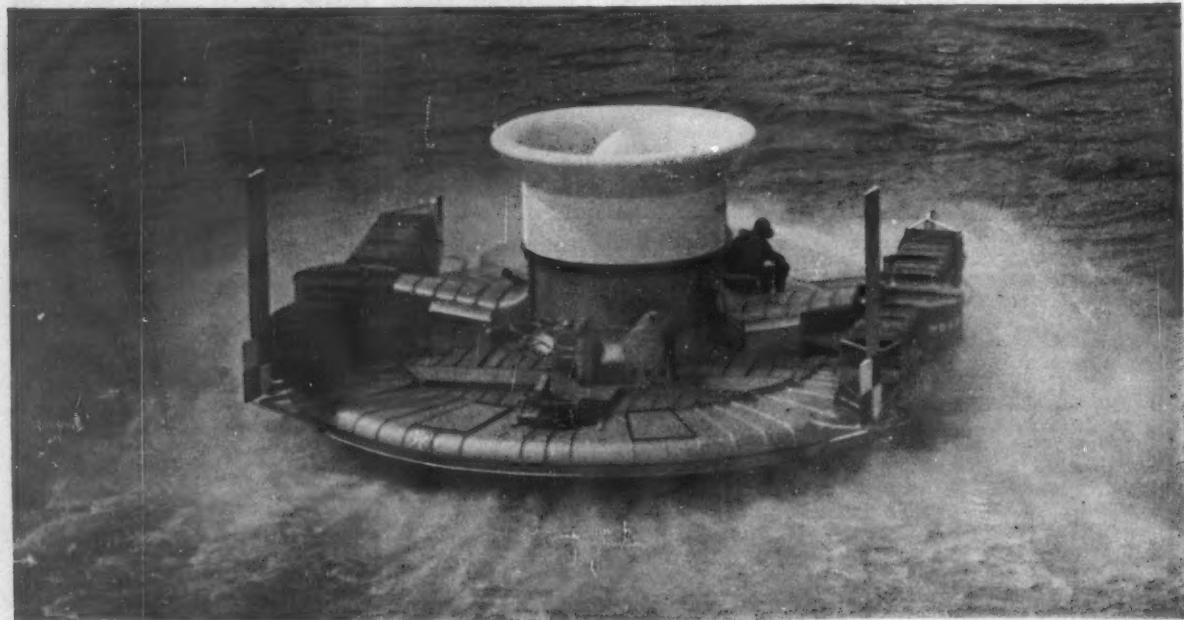
Proof of the Prediction

The Test Tanks Department provides an economical research and development service which includes both performance assessment and a study of special projects. Customers' requirements are tackled expeditiously. A confidential report of all tests undertaken and of data obtained is supplied to clients.

SAUNDERS-ROE

FLUID DYNAMICS LABORATORIES: OSBORNE WORKS, EAST COWES, ISLE OF WIGHT
TELEPHONE: COWES 2211

A MEMBER OF THE WESTLAND GROUP OF COMPANIES



Fast Patrol Boat "Ferocity"

VOSPER CRAFT WITH BRISTOL
PROTEUS GAS TURBINES



The "Ferocity" at speed. Her two gas turbines give her a speed of up to 54 knots

As a private venture, Vosper Ltd of Portsmouth has produced a smaller and lighter version of the *Brave* class fast patrol boat which they have built for the Royal Navy. This new boat, the *Ferocity*, carries the same armament as the *Brave* class boats, and has a similar performance, with only two Bristol Proteus gas turbines in place of the three Proteus turbines in the *Brave* class. (The *Brave Borderer*, described in THE SHIPPING WORLD of 30 September 1959, is 100ft long and has a maximum speed of more than 50 knots.) One of each of these two types of boat has been ordered by the Defence Minister of the Federal German Government.

The *Ferocity* has an overall length of 90ft 8in, beam of 22ft and a maximum speed of 54 knots. Unlike the hulls of the *Brave* class boats, which are constructed of welded aluminium frames to which is fastened a double skin of mahogany planks, the *Ferocity* has been built with laminated wooden frames, since, when competing with the stresses normally experienced by a boat at sea, there are certain advantages in using a homogeneous structure. This also assists mass production and makes the boats easily repairable in the event of damage. In both types of boat the wooden skin is protected by a thin skin of glass fibre.

The *Ferocity* type boat has been designed for offensive operations and also for defence. The armament consists

of four 21-in torpedoes with side-launching gear or two 21-in torpedoes and two 40-mm Bofors; alternatively eight groundmines and one 40-mm Bofors can be carried. The complement consists of two officers, two POs and ten ratings. Manoeuvrability, as recently demonstrated in the Solent, is excellent and is achieved by the use of twin rudders and Mathway power-assisted steering gear. Automatic steering is effected by a Sperry Gyrosin compass/tiller pilot combination. Decca radar type TM 909 has been installed.

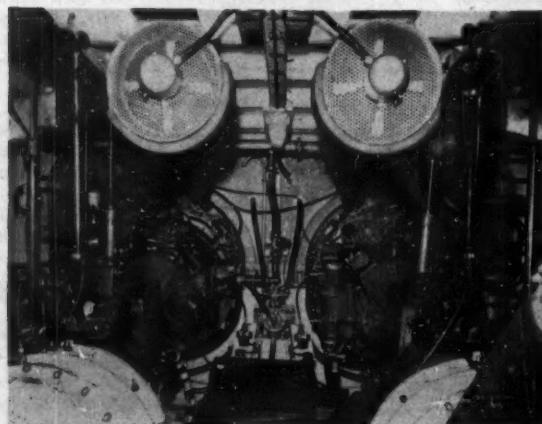
Protection against atomic, bacteriological and chemical attack has been included. Wheelhouse and forward accommodation form a gas-tight citadel, and there is provision for spraying the bridge and upper deck.

Propelling Machinery

Each of the two Proteus engines has a maximum rating of 4,250 shp, and a continuous rating of 3,400 shp, for a weight of only 2,885 lb. The specific weight of the engine and reduction gearbox is only 0.68 lb/hp, which is about one quarter the specific weight of the lightest diesel engine of the same power and designed for the same purpose.

A novel feature of the *Ferocity* is that she is fitted with two small Mathway-Daimler diesel engines, for manoeuvring and for use if the boat requires to carry out long patrols at relatively slow speed. They will give her a range of some 2,000 miles and a speed of 9 to 10 knots as compared to some 400 miles at 40 to 50 knots on gas turbines. An important part of the development of this design of fast patrol boat has been the production of the Vosper 22-degree Vee-drive reduction gearbox. Vosper have designed this gearbox in conjunction with Bristol Siddeley Engines Ltd, David Brown Industries Ltd and E.N.V. Ltd, using gear manufactured by E.N.V. Ltd for the Vee-drive, and single helical gears manufactured by David Brown Industries Ltd for the parallel reduction gear.

The gearbox is capable of accepting a drive from either the main or the cruising engines. The cruising engines incorporate their own means of reversing while the main engines, being restricted to occasions when use is made of the vessel's high speed, need not be capable of going astern. In consequence the gearbox is not fitted with reversing gear and an expensive complication is avoided. To achieve the normal outward rotation of the propellers with unidirectional engines, an idler is fitted to the port gearbox. Electricity is supplied by two Rover gas turbine-driven generator sets of 40 kVA, 440 volts, 3 phase, 60 cycles capacity.



View of engine room showing how neatly the two Proteus gas turbines have been installed

NEW CONTRACTS

Shipowners	No. of Ships	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Delivery	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Ministry of Transport and War Office (B.I.S.N. Co)	1	Logistics ship	5,450	—	—	17	Sulzer diesel	—	Shipbuilders	Fairfield S.B. & E. Co
Lowestoft owners	1	Trawler	(166)	—	—	—	Diesel	500	A. K. Diesels	Brooke Marine
Grimsby owners	2	Trawlers	(190)	—	—	—	Diesel	670	National Gas	
	1	Cargo pass.	—	(176)	—	—	Diesel	990	Lister Blackstone	
Overseas Yards										
German owner	1 (536)	Bulk carrier	30,500	—	1963	15.5	Diesel	10,500	M.A.N.	Lubecker Flander-Werke

LAUNCHES

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Sept. 27	Burnett S.S. Co	*Gosforth (894)	Cargo	7,500	383(410.25) × 55.5 × 31(23.75)	—	6-cyl diesel	3,840	Sulzer Bros., Winterthur	Hall Russell
Nov. 23	BP Tanker Co	British Merlin (1606)	Tanker	15,500 (11,150)	495(525) × 69 × 37	—	6-cyl B & W diesel	—	Shipbuilders	Harland & Wolff, Govan
Nov. 23	Trustees of the Harbour of Dundee	D.M.T. No 8 (536)	Hopper barge	(270)	—	—	NIL	—	—	Caledon S.B. & E. Co
Nov. 23	Aberdeen Harbour Board	Sea Trojan (320)	Tug	(105)	80 × 23 × 11	10.5	Diesel	760	National Gas	John Lewis & Sons
Nov. 24	Lord Line	Lord Jellicoe (979)	Trawler	(590)	(180) × 30 × 16.25	—	8-cyl diesel	1,400	Mirrlees, Bickerton & Day	Cook Welton & Gemmell
Nov. 24	Corporation of Birkenhead	Overchurch (1304)	Pass. ferry	(450)	142.5(152.67) × 39 × 12.5(7.25)	12.6 (T)	Tw.-scr. diesel	1,360	Crossley Bros.	Cammell Laird & Co
Nov. 24	Ross Trawlers	Ross Curlew (1469)	Trawler	(288)	107.5 × 24.5 × 12.5	—	6-cyl diesel	695	Ruston & Hornsby	Cochrane & Sons
Overseas Yards										
Aug. —	U.S.S.R.	Shencursk	Cargo	4,500 (3,454)	314.1 × 47.25 × (20.75)	14	Diesel	2,500	Gorlitzer	Neptun Werft
Nov. —	U.S.S.R.	Lizichansk (591)	Tanker	35,000 (22,100)	—	—	Sulzer diesel	—	Shipbuilders	Ishikawajima-Harima H.I., Aioi
Nov. —	Dalmor, Poland	Pegaz (115013)	Factory crawler	1,250 (2,670)	241.1(278.9) × 45.25 × 23.33(12.75)	12.5	8-cyl diesel	2,400	Sulzer Bros.	Stocznia Gdanska
Nov. 18	A/B Fulcrum	Totem Star (1350)	Cargo	15,000 (10,400)	525 × 65.67 × 43.5(31)	16	G.V. diesel	7,500	Shipbuilders	Forges et Ch. de la Mediterranee
Nov. 21	Vereenigde Nederlandse Schep. Mij.	Schierkerk (637)	Cargo	12,000 (10,200)	480 × 66 × 38(29.5)	18	B & W diesel	10,600	Shipbuilders	P. Smit Jnr.
Nov. 23	Vasa Laiva O/Y	Vasa Leader (374)	Cargo	13,000 (9,000)	442(487.1) × 61.5 × 39.9(30)	16 (T)	6-cyl diesel	7,500	Gebr. Stork	Oskarshamns Varv
Nov. 28	Belgian Govt.	Koningin Fabiola (1391)	Pass. ferry	(3,000)	362.9 × 49.2 × 16.95 (12.75)	22	Tw.-scr. diesel	9,600	Sulzer Bros.	Jos. Boel & Fils

* Amended details of original entry (S.W. 4.10.61)

TRIAL TRIPS

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Nov. 9	Corporation of Trinity House	Patrol (283)	Pilot vessel	(300)	125(139) × 24 × 13 (10.42)	12.75	Two 6-cyl diesels	990	Lister Blackstone	Brooke Marine
Nov. 23	Australind S.S. Co	Australind (389)	Cargo	12,620 (8,500)	431(466) × 61.75 × 40.2(30.1)	17.32 (T)	5-cyl G.V. diesel	6,300	N.E. Marine	Bartram & Sons
Nov. 23	Consolidated Fisheries	Carlisle (528)	Trawler	(430)	137.25 × 28 × 14.25	12.8 (T)	8-cyl diesel	1,120	Mirrlees Bickerton & Day	Goole S.B. Co
Overseas Yards										
Oct. —	Hamburg-Amerika Linie	Blumenthal (952)	Cargo	11,000 (9,350)	475.75(519.95) × 63 × 40(30.25)	18.5	8-cyl M.A.N. diesel	10,800	Shipbuilders	Howaldtswerke
Nov. —	Hamburg-Sudamerikanische	Cop San Lorenzo (984)	Cargo	10,300 (7,500)	473.9(523) × 70.25 (24.67)	20	9-cyl diesel	11,650	M.A.N.	Deutsche Werft
Nov. —	Hamburg-Sudamerikanische Cie. Maritime Belge	Cop San Augustin (1144)	Cargo	10,300 (7,500)	473.9(523) × 70.25 (24.67)	20	9-cyl M.A.N. diesel	11,650	Shipbuilders	Kieler Howaldtswerke
Nov. —	Monthouw (809)	Monthouw (809)	Cargo	12,240 (9,403)	447.25(482.67) × 62 × 39.33(29)	14.5	5-cyl Sulzer diesel	6,500	Shipbuilders	Cockerill-Ougree
Nov. —	Adelaide S.S. Co	Troubridge (43)	Cargo	4,000 (2,000)	282 × 50 × 31(11.5)	14.5	Tw.-scr. diesel	4,410	British Polar	Evans Deakin & Co
Nov. —	Rederi A/B Marion, (Ake Hogberg)	*Maronia (374)	Cargo	5,900 (4,000)	(375.67) × 50.67 × (24.67)	—	5-cyl diesel	—	Fiat	A/B Finnaboda Varf
Nov. —	Nippon Yusen Kaisha	Sapporo Maru (846)	Cargo	11,800 (9,600)	475.5 × 64 × 40.33 (29.5)	18	9-cyl diesel	12,000	Shipbuilders	Mitsubishi Nippon H.I.
Nov. 16	Hollandsche Vrachtaart Mij.	Hollands Duin (807)	Cargo	14,100 (9,631)	467.25(508.58) × 63.5 × 39.5	14	6-cyl B & W diesel	5,400	P. Smit Jnr	C. van der Giessen & Zonen Oresundsvaret
Nov. 16	A/S Uglands Rederi	Margarita (182)	Cargo	16,250 (10,800)	485 × 65.33 × 38 (29.1)	14.24 (T)	6-cyl diesel	4,500	Gotverken	Bergens Mek. Verk.
Nov. 16	Chr. Salvesen & Co, Leith	Salvado (375)	Cargo	12,615 (8,956)	442.25(485) × 61.5 × 39.5(29.95)	15	9-cyl diesel	5,600	Gotverken	Oskarshamns Varv
Nov. 17	Charente S.S. Co	Dalesmen (306)	Cargo	7,500 (6,300)	400(440) × 59.5 × 36(26)	15.5	5-cyl diesel	5,500	Sulzer Bros	Nederlandsche Dok
Nov. 21	H. Kuhne's Rederi	Nordvind (423)	Cargo	13,250 (9,556)	442(479.67) × 62 × 31.25(30.9)	15.25 (T)	9-cyl B & W diesel	6,090	Akers M.V.	Kockums M.V.
Nov. 22	Trelleborgs Angfartygs A/B	Crystal Sea (483)	Refrig. cargo	6,350 (6,425)	412.9(445.1) × 58 × 36(25.1)	18.25	8-cyl M.A.N. diesel	6,960	Shipbuilders	Kockums M.V.

*Launched as Marion and is under charter to the Cunard Line

MARITIME NEWS IN BRIEF

CAPTAIN K. D. G. FISHER, master of the Shaw Savill passenger liner *Dominion Monarch* is retiring after 48 years at sea. His first voyage was in 1913, as a cadet in the barque *Port Jackson*, owned by Devitt & Moore's Ocean Training Ships Ltd. In 1916, Captain Fisher joined the Royal Naval Reserve. After demobilisation, he joined the Harrison Line. He obtained his Master's Certificate in 1922, and then joined the Aberdeen Line, since when he has served in Aberdeen, Aberdeen and Commonwealth and Shaw Savill Line ships. While serving as chief officer in *Akaroa* in January 1943, Captain Fisher was awarded the George Medal for gallantry. He was appointed to his first command, the cargo vessel *Samrich* in October 1943. There followed appointments to other Shaw Savill ships, notably *Gothic* and *New Australia*. He has commanded *Dominion Monarch*, with two short breaks since December 1955.



MR G. D. G. PERKINS, solicitor and chief legal adviser to the Port of London Authority, has been appointed joint deputy general manager. In 1945 he became assistant legal adviser to the B.B.C. and in 1948 moved to a similar position with the National Coal Board. In 1951 he was appointed deputy solicitor to the Port of London Authority and became solicitor and chief legal adviser in 1955. He will take up his new duties on March 1. He is probably better known as Dudley Perkins the broadcaster, famous for his "Can I Help You?" series. Apart from his many broadcasting activities he is also a well-known author

CAPTAIN J. O'NEILL, joint general manager of Irish Shipping Ltd, has retired. Mr Liam Furlong, joint general manager with Captain O'Neill, has been appointed general manager.

MR W. A. TRAIN and Mr F. J. Goodall have been appointed to the board of W. H. Allen, Sons & Co Ltd.

CAPTAIN R. A. MCPHEE has been promoted to the command of the Ben Line cargo-passenger liner *Benvorlich*. It is his first command.

MR N. M. F. VULLIAMY has been appointed chief engineer (diesel) with the Perkins Group. He is succeeded as manager of the group's Experimental Department by Mr A. M. Porkess.

MR H. C. JOHNSON, general publicity manager of John I. Thornycroft & Co Ltd, is retiring on December 31 after 47 years with the company. From January 1 the advertising section will be in the hands of Mr J. G. Gunson, while press and public relations matters will be dealt with by Mr R. T. Mason.

MR A. C. GROVER, a deputy chairman and treasurer of Lloyd's Register of Shipping, and Mr W. J. Ferguson, secretary and chief executive, attended the inaugural meeting of the Society's new India Committee in Bombay. The India Committee is the twelfth National Committee of the Society to be formed. Chairman of the India Committee is Sir A. Ramaswami Mudaliar and the deputy chairman is Mrs Sumati Morarjee.

MR R. W. DICK, a director of Killick Martin & Co Ltd, has celebrated the 50th anniversary of his joining the company.

MR C. F. ELLIS has joined Ultra Electronics Ltd as sales engineer to the Control and Instrumentation Group.

MR S. R. NIGHTINGALE (Lloyd's) has been elected chairman of the War Risks Rating Committee in succession to the late Mr H. Lloyd Owen.

MR R. G. GROUT has been elected chairman of the Thames Nautical Training College HMS Worcester in succession to the late Sir William Currie.

MR R. A. WILSON has been appointed manager of the Tourist Class Department of United States Lines in the U.K. He succeeds Mr George Phipps, who has gone into private business. Mr Wilson joined the company in 1947 and spent two years in the accounts department before joining the R.A.F. for national service. He returned to the accounts department in 1951, and in 1956 was transferred to the passenger department in cabin class, and moved to tourist class in 1960



THE South African Marine Corporation Ltd announces that a new company, the South African Marine Corporation (U.K.) Ltd is to be responsible for freight brokerage in respect of its East and West Coast services. With effect from January 1 this work, hitherto performed on its behalf by Brown, Jenkinson & Co Ltd in respect of the West Coast U.K. service since its inception in 1950, will be entrusted to the South African Marine Corporation (U.K.) Ltd.

A NEW Association has been formed under the title of "International Association of Short Sea Liner Services" whose membership includes those liner companies which are maintaining regular cargo services between any port in the United Kingdom of Great Britain and Northern Ireland, and Eire and any port on the Continent in the Hamburg/Bordeaux range. The objects of this Association are (a) to enable all matters of mutual interest to the companies engaged in these trades to be discussed, and (b) to represent the interests of these trades on national and international matters. The secretary's address is 3 Mincing Lane, London EC3 (telephone: MANSION HOUSE 9388).



"OSBORNE CASTLE" LAUNCHED

The twin-screw vehicle and passenger ferry "Osborne Castle" has been launched at the Southampton yard of John I. Thornycroft & Co Ltd for the Southampton, Isle of Wight & South of England Royal Mail Steam Packet Co Ltd. The naming ceremony was carried out by Lady Ashburton, wife of Lord Ashburton, the Lord Lieutenant of Hampshire and the Isle of Wight. While basically a sister ship of the earlier "Carisbrooke Castle", several modifications are being made to improve and enlarge the passenger saloon and open deck accommodation. When completed the "Osborne Castle" will join her sister ship on the vehicle ferry service between the mainland and the Isle of Wight and the older "Medina" and "Norris Castle" will be withdrawn from service.



HUNTING GROUP EXECUTIVE CHANGES

Following the retirement of Mr Lindsay Hunting as chairman of the Hunting Group of companies, MR C. P. M. HUNTING (left) will succeed him. Mr C. Hunting is the eldest son of Sir Percy Hunting, himself a former chairman of the group. He joined the group in 1936 and is the present vice-chairman. The new vice-chairman is MR L. C. HUNTING (right), eldest son of the retiring chairman. Mr L. Hunting served in the Navy during the war and joined the Hunting Group in 1950. He is the present president of the British Independent Air Transport Association

WILSON, SONS & CO LTD state that their Santos associates advise that the Dock Company charges have been increased by 50 per cent. It is expected that the charges for tally clerks will be increased in the very near future. It is fully anticipated that confirmation will be received in the very near future that other Brazilian ports are subject to increases.

ASSOCIATED ELECTRICAL INDUSTRIES LTD has supplied all the cable for a floating dock built by the Furness Shipbuilding Co Ltd, for Centromor, Warsaw. AEI Cable Division has supplied 16,750 yds of multicore butyl insulated p.c.p. sheathed cable, the larger sizes of which were manufactured with shaped conductors.

FIVE MILLION TONS of grain per year will be handled by the new grain terminal in Amsterdam harbour. This grain transhipment and storage plant owned and operated by Internationale Graanoverslag Maatschappij Amsterdam N.V. is the biggest on the Continent.

DAN-AIR SERVICES LTD are opening a new service between Bristol, Cardiff, Liverpool and Rotterdam in January 1962 on a twice weekly basis. Flights will depart every Tuesday and Thursday morning returning the same afternoon.

THE Dutch liners *Johan van Oldenbarneveldt* and *Waterman* will serve as floating hotels in the port of Fremantle for the duration of the Commonwealth Games, which are to be held at Perth in November next year.

* * * *

THE Egyptian Chamber of Shipping have decided on new agency fees in regard to ships of over 2,000 nrt passing through the Suez Canal. From January 1, subject to the final approval of the authorities, the agency fees for this type of vessel are to be increased by £100 for two ports and £50 for one port. The fees for vessels up to 2,000 tons remain unchanged. In addition, the hire of projectors has increased to £30.

VICKERS-ARMSTRONGS (ENGINEERS) LTD have completed a contract to supply hydraulic trawl winch, windlass and steering gear for a trawler building at the yard of Estaleiros Navais de Viana do Castelo. It is believed that this is the first vessel fitted with hydraulic trawl winch, windlass and steering gear all supplied by the same manufacturer.

JOHN I. JACOBS & CO LTD have changed their teleprinter number to London 24481/2/3/4.

B.O.A.C. is to inaugurate a weekly service in the new year between Britain and the British colony of Mauritius. The first

service will leave London on January 6. The jet-prop Britannia airliners will take 24 hours 35 minutes to complete the journey, calling at Rome, Khartoum and Nairobi. The service will leave London on Saturdays. At Mauritius there are overnight connections to and from Perth, Melbourne and Sydney by Qantas and South African Airways.

A REFERENCE to the late Mr J. J. Ashton in last week's SHIPPING WORLD did not make it clear that he was general manager of the Newport, Mon, office of Watts, Watts & Co.

THE two Nantes shipyards of Ateliers et Chantiers de Bretagne and Chantiers Reunis Loire-Normandie have combined to form the Ateliers et Chantiers de Nantes (Bretagne-Loire).

TRAFFIC through the Suez Canal during September numbered 1,408 ships totalling 15,082,197 nrt with a daily average of 46.9 transits, against 1,491 ships totalling 15,198,608 nrt with a daily average of 49.7 transits in September last year. Of this total 746 were tankers totalling 11,098,000 nrt against 799 of 10,992,000 tons last year. Tanker net tonnage represents 74 per cent of the total transiting vessels during September against 72 per cent during the same month last year.

AFTER 21 years' service, Mr Thomas W. Hope, manager of the shiprepairs department of Crompton & Harrison Ltd, Seaham, Co. Durham, has retired.

THE death has occurred at Newcastle upon Tyne of Mr Ernest S. Howgate, a director since 1935 of G. T. Gillie & Blair Ltd, shipowners, of Newcastle. He was 63 years old, and joined the firm in 1919. Earlier this year he was elected chairman of the Newcastle District Association of Chartered Shipbrokers.

T. W. GREENWELL & CO LTD have secured contracts for repairing two ships belonging to the Reardon Smith Line. These will enable the firm to restart a good number of men, and keep the yard busy until after Christmas.

A NEW OFFICE which will specialise in chartering with particular emphasis on Great Lakes and Canadian cargoes has been opened in London by Vogt & Maguire Ltd, of Liverpool pool. The office is situated in Market Building, 29 Mincing Lane, London EC3 (telephone: Mincing Lane 3535). The manager of the office is Mr Michael King.

JOHN H. WHITAKER (TANKERS) LTD has moved to Crown Dry Dock, Tower Street, Hull (telephone: 31613).

FIFTY YEARS AGO

From THE SHIPPING WORLD of 6 December 1911

The official announcement that the Cunard Steamship Company, Ltd., has acquired a large interest in the Anchor Line (Henderson Bros.), Ltd., has aroused the liveliest interest in Liverpool shipping circles, as it realises the hopes and expectations of many who have long wished to see the Cunard Company unfurl its flag in other trades than those of the North Atlantic and the Mediterranean. Expansion in such a manner, in view of the many shipping conferences now in existence, is not easily accomplished, the united forces of such conference lines being usually ranged against any new service that may covet a share of these particular trades. The alternative is to co-operate with or purchase the business of a line already in the trade which it is desired to enter. It is by such means that the Cunard Company obtained an opening some months ago in the Canadian trade, and now has, through the Anchor Line, secured an interest in the Eastern trade.

The death of Mr. Alfred Holt, head and founder of the famous shipping firm of Messrs. Alfred Holt & Co., owners of the "Blue Funnel" Line, which took place suddenly last week, is sincerely regretted throughout the city and port of Liverpool, for he was greatly esteemed and respected by every section of the community. Mr. Holt, who was in his 82nd year, was for 26 years a member of the Mersey Docks and Harbour Board, and for sixteen months he occupied the position of chairman. . . . Mr. Holt lived to see Blue Funnel liners afloat with a gross register of upwards of 10,000 tons.

LEIGH'S Marine PAINTS



SUPERSTRUCTURE
**LEIGH'S
MARINE WHITE**

"the best white paint in
the world"

TOPSIDES AND
BOTTON

PIGRIP

SPICOT LEIGH'S BARRIER PAINT
applied over 30,000 sq. ft.
of deck paint. 100%
shot blasted steel.

DECKS
PROTEX
DECK COMPOSITION

special heat, oil and
saltwater resistant
deck coatings

**66,800 ton
S.S. SOLEN**

OWNERS: SHELL TANKERS LTD.

We wish to record our appreciation
of the Owners' confidence in us by
their specification of our paints for
interior and exterior surfaces of this
great ship, the latest addition to
their fleet. We also wish to
acknowledge the full co-operation
given by the Shipbuilders, Messrs.
Swan Hunter & Wigham Richardson Ltd.
during the preparation and application
of these specialised materials.

P. Leigh Bramwell
Chairman & Managing Director

W. & J. LEIGH LTD.

LONDON BOLTON GLASGOW
SPECIALISTS IN THE MANUFACTURE OF MARINE PAINTS

**N. Hingley & Sons
(NETHERTON) Ltd.**

Dudley

Phone 55301



**BALTONA
SHIPCHANDLERS**



Head Office: GDYNIA Pułaskiego 6,
POLAND

Cables: BALTONA (for all offices)

Branch Offices: Gdynia Port,
Gdańsk-Nowy Port, Szczecin,
Odra Port, Kotobrzeg.

Fresh and Dry provisions · Large stocks of bonded stores · Deck and engine stores · Steward stores · Wide range of souvenirs and personal articles for ships crews

Sole Agents in Polish Ports for:
Shell International Petroleum Company
Ltd; Marine Lubricants.
International Paints Exports Ltd.,
London: Marine Paints.
Hempel's Marine Paints, Copenhagen.
Scaling Hammers Ltd., London: Scaling Tools.
James Walker & Co., Ltd., Lion Works,
Woking: Packings and Jointings.
Valspay Ltd., London: Paint Spraying
Machines.
Hawkins and Tipton Ltd., London:
Manila Ropes.
Gadore Werkzeugfabrik, Remscheid:
Tools.

**THE NORTH OF ENGLAND PROTECTING
& INDEMNITY ASSOCIATION LTD.**

(ESTABLISHED 1860)

J. N. BURRELL
Chairman

J. R. COWPER, O.B.E.
Vice-Chairman

W. FERGUSON
General Manager

Head Office

Collingwood Buildings, NEWCASTLE UPON TYNE, I
Newcastle 25221-3

Branches

CARDIFF—Crichton House, Mount Stuart Square
GLASGOW—134, St. Vincent Street, C.2
LIVERPOOL—123, Derby House, Exchange Buildings
LONDON—24, St. Mary Axe, E.C.3

Cardiff 24014
Central 5915
Central 2914
Avenue 1522

REPRESENTED AT ALL THE PRINCIPAL PORTS OF THE WORLD

ADMIRALTY CHARTS

The LATEST EDITIONS of Charts,
Plans and Sailing Directions
published by the Hydrographic
Dept., can be obtained from

**J. D. POTTER,
LTD.** Admiralty Agent for Charts
Publisher of Nautical Books,
and Bookseller.

145 MINORIES, LONDON, E.C.3.

Telephone: ROYAL 1349 Telegrams: ADCHARTS FEN LONDON Cables: ADCHARTS LONDON

Large Stocks of Nautical and Technical Books of all
descriptions

ROYAL MAIL LINES

TO SOUTH AMERICA
(BRAZIL · URUGUAY · ARGENTINA)

8 NEW PASSENGER LINERS
AMAZON · ARAGON
ARLANZA

each of 20,350 tons gross, FULLY
AIR-COITIONED AND
STABILISED, are now in
service on the LONDON-
SOUTH AMERICA route.



**ROYAL MAIL
LINES LTD**

LONDON: Royal Mail House, Leadenhall Street, E.C.3
America House, Cockspur Street, S.W.1.

LIVERPOOL: Pacific Building, James St. (2)

**THE NEW ZEALAND SHIPPING
COMPANY LIMITED**

PASSENGER AND CARGO SERVICES

**To New Zealand
via Panama**

Particulars from J. B. WESTRAY & CO. LTD.
138 LEADENHALL STREET, LONDON, E.C.3.
Tel.: AVenue 5220

MOSS HUTCHISON LINE LTD.

REGULAR FREIGHT SERVICES FROM LIVER-
POOL, GLASGOW AND SOUTH WALES TO
CASABLANCA AND MEDITERRANEAN PORTS.
ALSO FRANCE, SPAIN AND PORTUGAL

For Freight apply to
MOSS HUTCHISON LINE LIMITED
P.O. BOX 96, MARTINS BANK BUILDING WATER STREET, LIVERPOOL, 2

GLASGOW
91, Bothwell Street, C.2

MANCHESTER
196 Deansgate.

LONDON
c/o THE GENERAL STEAM NAVIGATION CO. LTD
"Three Quays," Tower Hill, London, E.C.3
Tel: MINcing Lane 3800

GELLATLY, HANKEY & Co. LTD.

CABLES:
GELLATLY
LONDON

TELEPHONES:
ROYAL 7844 6 LINES
ROYAL 1272 14 LINES
TELEX: 22844

REGULAR SERVICES FROM
UNITED KINGDOM
TO

EGYPT, RED SEA, INDIA, PAKISTAN,
CEYLON, AFRICA, STRAITS & FAR EAST

FREIGHT · PASSAGES · FORWARDING · INSURANCE

LIVERPOOL, MANCHESTER, GLASGOW

PASSENGER OFFICE: 23, PALL MALL, S.W.1

PORT LINE

FREIGHT AND PASSENGERS

Regular Sailings

LONDON, LIVERPOOL, NEW YORK & CANADA

to

AUSTRALIA & NEW ZEALAND

PORT LINE LTD

CUNARD HOUSE, 88 Leadenhall Street, London, E.C.3
Phone Avenue 1270

Telegrams: "Portship" London Telex"



BLUE STAR LINE

express liner services to

AUSTRALIA
NEW ZEALAND
SOUTH AFRICA
SOUTH AMERICA
PORTUGAL &
NORTH PACIFIC

BLUE STAR LINE LTD.
Albion House, Leadenhall St., E.C.3 Passenger Office: 3 Lower Regent St., S.W.1

BIBBY LINE

UNITED KINGDOM, CONTINENT
MARSEILLES, EGYPT, SUDAN, CEYLON
AND BURMA

All enquiries to:-

BIBBY BROTHERS & CO., Martins Bank Building,
Water Street, LIVERPOOL 2

HOULDER BROTHERS & CO. LTD.

Shipowners, Insurance Brokers, Passenger &
General Forwarding Agents (Sea and Air)

REGULAR FAST SERVICES to RIVER PLATE

From Liverpool, London, Bristol Channel & Antwerp
and to SOUTH AFRICA

Head Office 53 LEADENHALL STREET, LONDON, E.C.3

Furness Lines

Freight and Passenger Services

FURNESS WARREN LINE

LIVERPOOL

to St. John's, Nfld, Halifax, N.S., and Boston.

FURNESS PACIFIC LINE

MANCHESTER and GLASGOW

to Los Angeles Harbour, San Francisco, Portland, Seattle,
Victoria and Vancouver, B.C., via Panama Canal.

FURNESS GREAT LAKES LINE

NEWCASTLE to Cleveland, Detroit, Chicago and
MilwaukeeLONDON to Toronto, Hamilton, Cleveland, Detroit,
Chicago and Milwaukee

JOHNSTON WARREN LINE

ANTWERP, HAMBURG, SWANSEA and LIVERPOOL
to Piraeus, Volo, Thessaloniki, Izmir,
Haydar Pasha, Istanbul, Black Sea,
Roumanian and Danubian Ports.

FURNESS BERMUDA LINE

NEW YORK — Bermuda — Nassau Cruises.

Furness West Indies Cruises.

FURNESS RED CROSS LINE

NEW YORK

to Saint John, N.B. Halifax, N.S.
St. John's and Cornerbrook, Nfld.

For further information apply:

FURNESS, WITHEY & CO. LTD.

Furness House, Leadenhall Street,
London, E.C.3

Telephone: ROYal 2525

Also at LIVERPOOL, GLASGOW, NEWCASTLE, MIDDLESBROUGH,
LEITH and GRANGEMOUTH.

PRINCE LINE

MANCHESTER, MIDDLESBROUGH
ANTWERP and LONDON to
MALTA CYPRUS ISRAEL

and
TUNIS LIBYA EGYPT LEBANON SYRIA TURKEY
also Leith, Newcastle and Southampton
subject to inducement.

For further information apply:

PRINCE LINE LTD., 56 Leadenhall St., London, E.C.3
Telephone: ROYal 2525

GOUGH & CROSTHWAITE LTD., 22/24 Booth St., Manchester 2
Telephone: CENtral 7705

Fast Turn-Around thru
Ports of Maine

If you want the whole story on the advantages of
Maine Ports write

Walter Van Bokkelen or
James J. Ryan

Maine Port Authority

8-10 Bridge St., New York, N.Y.
Tel HAnover 2-9094

**FREE
Maine Ports Book**

Write:
Maine Port Authority
909 State Pier,
Portland, Maine,
U.S.A.

SHIP REPAIRS — MONTREAL

ENGINE, BOILER AND HULL

J. & R. WEIR LIMITED

Established 1875

Un 6-5401
Nights & Holidays 33 NAZARETH STREET Cables:
Un 6-5138 & RE 8-9782 MONTREAL "Weirmon"
Montreal

**SHIP OWNERS'
PROTECTION AND INDEMNITY
FREIGHT · DEMURRAGE AND DEFENCE**

covered by

THE LONDON

Steam-Ship Owners' Mutual Insurance Association Ltd
ESTABLISHED 1866

For particulars apply to the Managers

A. BILBROUGH & CO., LTD.

Walsingham House,
SEETHING LANE, LONDON, E.C.3

Telegrams: Bilbrough London

Telephone: Royal 4971

**HIGGINSON'S
CARGO & DERRICK
BLOCKS**

Grams: Hydraulic Royal 6769
HIGGINSON & CO., Hurst Street, LIVERPOOL, 1

SITUATIONS VACANT

MARINE ENGINEER required possessing First Class M.O.T. Motor Certificate, for Red Sea trade. Commencing salary £155 15s. od. per month, 21 months' contract, home leave on termination 112 days and free passage home. Apply Box No. ME 409, c/o SHIPPING WORLD, 127 Cheapside, London, E.C.2.

EXPERIENCED Assistant Engineer Superintendent preferably with knowledge Deutz and British Polar engines required by progressive Northern Shipowners. Apply with particulars to Box ES 410 c/o SHIPPING WORLD LTD., 127 Cheapside, London, E.C.2.

**Frigates, Tugs, Shallow Draft Vessels
& Yachts**

**High Pressure Water Tube Boilers,
for Power Stations and Industrial Plants**

YARROW & CO. LTD.

SHIPBUILDERS
ENGINEERS
BOILERMAKERS
SCOTSTOUN · GLASGOW · W4

EX-ADMIRALTY CHRONOMETERS & BINOCULARS FREE APPROVAL
WALTHAM Gimbaled CHRONOMETER WATCHES 667 10 0
7 x 50 U.S. NAVY PRISMATIC NIGHT GLASSES 667 10 0
Cost approx. £60. Perfect condition, with case 624 0 0
6 x 30 TAYLOR HOBSON PRISMATICS 67 15 0
CHARLES FRANK LTD.
67-75 SALT MARKET, GLASGOW, C.I. Phone: BELL 2106/7
Established 1907 Send for illustrated catalogue

NEW SHIPS
Requiring Stores, Provisions, Tewage, etc., for any Port
consult

A. E. SHEPPARD & CO., LTD.

World Wide Information Service

BEVIS MARKS HOUSE, LONDON, E.C.3.

Phone: Avenue 2671/2 Cables: Assinporta, London

INDEX TO ADVERTISERS IN THIS ISSUE

	Page
Agence Maritime Internationale	A23
Armstrong Cork Co. Ltd.	A17
Baltone	A20
Bank Line	A7
Bibby Bros. & Co.	A21
Bilbrough & Co. Ltd., A.	A22
Black Star Line Ltd.	Front Cover
Blue Star Line Ltd.	A21
Blundell & Crompton Ltd.	A6
British Transport Commission	A6
Brown Brothers & Co. Ltd.	A3
Centromar	A16
Cochrane & Sons Ltd.	A12
Cory Brothers & Co. Ltd.	A4
Craig & Co. Ltd., John S.	A10
Doxford & Sons Ltd., Wm.	Back Cover
Frank Ltd., Charles	A22
Furness Withy & Co. Ltd.	A21
Gallatly, Hankey & Co. Ltd.	A20
Gray & Co. Ltd., William	A23
Higginson & Co.	A22
Hingley & Sons (Netherton) Ltd., N.	A20
Holoplast Ltd.	A14
Houlder Brothers & Co. Ltd.	A21
International MacGregor Organisation	A15
Lamont & Co. Ltd., James	A16
Leigh Ltd., W. & J.	A19
Lister Blackstone Marine Ltd.	A4
MacAndrews & Co. Ltd.	A7
McGeoch & Co. Ltd., Wm.	A6
Maine Port Authority	A22
Moss Hutchison Line Ltd.	A20
New Zealand Shipping Co. Ltd.	A20
North of England Protecting & Indemnity Association Ltd.	A20
Peters & Co. Ltd., G. D.	A11
Port Line Ltd.	A21
Potter Ltd., J. D.	A20
Power Petroleum Co. Ltd.	A13
Prince Line Ltd.	A21
Royal Mail Lines Ltd.	A20
Royal McBee Corporation	A8
Saunders-Roe Ltd.	A18
Sheppard & Co. Ltd., A. E.	A22
Thornycroft & Co. Ltd., John I.	A2
United Baltic Corporation	A7
United States Lines Co.	A9
Vickers-Armstrongs (Shipbuilders) Ltd.	A5
Weir & Co. Ltd., Andrew	A7
Weir Ltd., J. & R.	A22
Yarrow & Co. Ltd.	A22

Doxford built . . .

The Motor Ship "Willowbank", one of a series of ships on order for The Bank Line Ltd.

This vessel, constructed to trade as an Open or Closed Shelter Decker, was built under Special Survey to Lloyds Class + 100 A 1, and carries a deadweight of 12,030 tons on Closed Shelter Deck draft.

WILLIAM DOXFORD & SONS (SHIPBUILDERS) LTD.,
SUNDERLAND, ENGLAND.

Doxford powered

The propelling machinery of the M.S. "Willowbank" was built by William Doxford & Sons (Engineers) Ltd., and consists of a Doxford Opposed Piston Oil Engine with 4 cylinders 700 mm. in diameter, giving 4,800 B.H.P. in service.

WILLIAM DOXFORD & SONS (ENGINEERS) LTD.,
SUNDERLAND, ENGLAND

DOXFORD

P.5453

